DOCUMENT RESUME

ED 167 023 HE 011 810

TITLE	The National Guide to Credit Recommendations for Noncollegiate Courses.
INSTITUTION	American Council on Education, Washington, D.C.
SPONS AGENCY	Fund for the Improvement of Postsecondary Education (DHEW), Washington, D.C.
PUB DATE	79
NOTE	230p.
AVAILABLE FROM	American Council on Education, One Dupont Circle, Washington, DC 20036
EDRS PRICE	MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS	Business; *College Credits; *Course Descriptions; Decision Making; Directories; Guidelines; Higher Education; *Industrial Training; Industry; Inplant Programs; *Management Education; Manpower Development; National Surveys; *Professional Training; Program Guides; *School Industry Relationship
IDENTIFIERS	*Prior Learning

ABSTRACT

This national guide presents credit recommendations and course descriptions for education officials to consider when granting credit to students for learning acquired in noncollegiate organizations. The courses listed in the guide represent only a small sample of the educational programs conducted by the participating organizations. A section on use of the guide explains the types of courses in the guide, how to locate a particular course exhibit, how to interpret course exhibits, how the credit recommendations might be used, and how to receive assistance from the program offices. Questions and answers for counselors and advisors of adult students, and guidelines for national guide users in colleges and universities are included. Procedures and criteria used in the evaluation process for making credit recommendations are summarized. This edition of the guide also contains the results of evaluations on credit recommendations for apprenticeship programs and for courses offered by home-study schools that are accredited by the National Home Study Council. (SW)

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THE NATIONAL GUIDE

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Awarding Credit for Extra-institutional Learning

The following statement by the ACE Commission on Educational Credit has been approved by the ACE Board of Directors and endorsed by the Council on Postsecondary Accreditation.

The American Council on Education recommends that postsecondary educational institutions develop policies and procedures for measuring and awarding credit for learning attained outside their sponsorship.[1]

American society abounds in resources for learning at the postsecondary level. Public, private, and proprietary educational institutions exercise the central but not exclusive responsibility for instruction and learning. Associations, business, government, industry, the military, and unions sponsor formal instruction. In addition, independent study and reading, work experiences, the mass media, and social interaction contribute to learning and competency.

Full and effective use of all educational resources is a worthy educational and social goal. Achieving this goal will depend to a large extent on providing equitable recognition for extra-institutional learning:

- Educational credentials have a significant bearing on the economic, professional, and social status of the individual. Thus, social equity requires that equivalent learning, regardless of where and how it is achieved, be incorporated into the system of rewards for learning and competency, and

- Recognition encourages learning and contributes to pedagogical effectiveness. Teaching students what they already know is both stultifying to them and wasteful of educational and personal resources.

Postsecondary educational institutions legally authorized and accredited to award degrees and other educational credentials have a special responsibility to assess extra-institutional learning as part of their credentialing function.

In the development of institutional policies and procedures, the American Council on Education recommends the following guidelines and resources.

Guidelines

1. Reliable and valid evaluation of student achievement is the sine qua non in awarding credit. Experience, whether it be acquired at work, in social settings, in the library, at home or in the formal classroom, is in itself an inadequate basis for awarding credit. Increased attention to evaluation procedures and techniques is necessary when learning has been attained without participation in a program of study prescribed by an educational institution.

2. In determining whether it is appropriate to accept a student's extra-institutional learning for credit, the governing consideration should be the student's edu-

continued on inside back cover

THE NATIONAL GUIDE

The National Guide to Credit Recommendations for Noncollegiate Courses

1979 Edition

The National Guide is a publication of the Program on Noncollegiate Sponsored Instruction of the American Council on Education's Office on Educational Credit. It is a national program, with the following organizations and agencies participating with the Council in the conduct of the Program in their respective states:

The Pennsylvania Department of Education
The Consortium of the California State University and Colleges
The Illinois Board of Higher Education
The Massachusetts Board of Higher Education
The Michigan Board of Education
The New Jersey Board of Higher Education
The North Carolina Joint Committee on Transfer Students
The Tennessee Higher Education Commission

AMERICAN COUNCIL ON EDUCATION

The American Council on Education is nationally recognized as a major coordinating body for postsecondary education. Within the Council, the Program is administered by the Office on Educational Credit (OEC). The role of OEC and its policy-making and advisory arm, the Commission on Educational Credit, is to give attention to educational credit and credentialing policies for postsecondary education; to foster and operate programs to establish credit equivalencies among educational alternatives; to assist agencies and institutions in providing persons with due recognition for competency, knowledge, and skills, wherever and however obtained; and to provide individuals with an alternative means of demonstrating high-school-graduation competencies. OEC makes credit recommendations for testing programs such as the College-Level Examination Program and administers the General Educational Development (GED) Testing Service. Other activities of OEC, besides the Program on Noncollegiate Sponsored Instruction, include the evaluation of military formal courses, home study courses accredited by the National Home Study Council, apprenticeship and training programs, and Army military occupational specialties (MOS's), and Navy ratings.

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The Pennsylvania Department of Education has broad responsibilities which are mandated under the State Constitution. Responsibility for the Program on Noncollegiate Sponsored Instruction is placed within the Office of Special Programs. The mission of that office is the exploration, evaluation, promotion, and development of programs and systems that will provide lifelong learning opportunities to the citizens of the Commonwealth of Pennsylvania.

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CONSORTIUM OF THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

The Consortium of The California State University and Colleges, the "1,000-Mile Campus," helps serve the adult student in California through a variety of statewide programs. These include external degree, certificate, and credential programs, some of which are tailored to meet specific needs of employees in business, industry, education, and government. The Consortium also works with faculty and other academic officials to develop and coordinate programs of assessment and evaluation aimed at assisting the adult in receiving educational credit for appropriate nontraditional learning. With respect to the Program on Noncollegiate Sponsored Instruction, The Consortium works in cooperation with officials from both The California State University and Colleges and other colleges in California, both public and private, as a service to all segments of California postsecondary education.

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ILLINOIS BOARD OF HIGHER EDUCATION

The Illinois Board of Higher Education serves as a coordinating board for postsecondary education. As one of its coordinating efforts, the Board of Higher Education has agreed to serve as the Illinois liaison with the Program on Noncollegiate Sponsored Instruction. By working with this Program, the Board hopes to expand the services being provided to the residents of the State and to bring a closer liaison between those instructional activities that are taking place in noncollegiate organizations and higher education.

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MASSACHUSETTS BOARD OF HIGHER EDUCATION

The Massachusetts Board of Higher Education has legislatively-mandated responsibilities for coordination of public and private higher education in the Commonwealth, including regulation of degree-granting authority, program approval in public institutions, and budget recommendations in public institutions. The Board of Higher Education also awards some $16 million in state scholarships annually. Responsibility for coordination of the Program on Noncollegiate Sponsored Instruction rests within the academic affairs division of the Board of Higher Education.

Staff

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MICHIGAN BOARD OF EDUCATION

The State Board of Education, established in 1963, serves as the constitutional coordinating agency for postsecondary education and is the single agency for all public agency including vocational and adult education. Responsibility for the Program on Noncollegiate Sponsored Instruction is in the Bureau of Libraries and Adult Extended Learning Services of the State Department of Education, which administers policy as determined by the State Board.

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NEW JERSEY BOARD OF HIGHER EDUCATION

As the administrative agency of the Board of Higher Education, the New Jersey Department of Higher Education has broad as well as specific responsibilities mandated by law for the coordination and administration of the state system of higher education. The Department is specifically required to "stimulate programs relating to higher education. . ." and to "encourage co-operative programs by institutions of higher education." The Office for State Colleges through the Thomas A. Edison College of New Jersey, the locus for non-traditional education, will assume responsibility for the Program on Noncollegiate Sponsored Instruction.

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NORTH CAROLINA JOINT COMMITTEE ON COLLEGE TRANSFER STUDENTS

The North Carolina Joint Committee on College Transfer Students studies problems and recommends policies institutions may use in considering the admission of and the granting of credit to transfer students. The Joint Committee is sponsored by the North Carolina Association of Colleges and Universities in cooperation with The University of North Carolina, the State Board of Education, and the Association of Independent Colleges and Universities. The Program on Noncollegiate Sponsored Instruction is participated in and supported by the North Carolina Joint Committee on College Transfer Students.

Staff

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TENNESSEE HIGHER EDUCATION COMMISSION

The Tennessee Higher Education Commission is the coordinating agency for the public higher education institutions in the state, with responsibilities to approve all proposals for new academic programs or academic administrative units within institutions, to make recommendations to the governor and general assembly for state appropriations, and to develop a master plan for higher education in Tennessee. In addition, the Commission has the responsibility to administer certain portions of the postsecondary education authorization act and to administer the federal assistance programs under Titles I, VIa, and VIIa. The Program on Noncollegiate Sponsored Instruction is adminstered by the section of the Tennessee Higher Education Commission that deals with academic affairs.

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FOREWORD

I am pleased to commend to the collegiate and noncollegiate communities the 1979 edition of *The National Guide to Credit Recommendations for Noncollegiate Courses,* one in a series of ACE guides designed to help institutions give appropriate recognition for learning attained outside their sponsorship.

Since 1945, when the first edition of *A Guide to the Evaluation of Educational Experiences in the Armed Services* was published, the Council has been committed to assisting institutions in their efforts to serve adult learners. Over the last five years, this commitment has been reaffirmed and strengthened with the growth of the Program on Noncollegiate Sponsored Instruction and other evaluation activities of the Office on Educational Credit. The ACE Guide Series now includes *A Guide to the Evaluation of Educational Experiences in the Armed Services* and this publication *The National Guide.* Guides on external degree programs and credit by examination will be published during 1979, together with "how to" guides on evaluating and awarding credit for a variety of extra-institutional learning activities.

The Council urges postsecondary institutions to develop policies that permit the award of credit for learning acquired by students who have successfully completed courses listed in *The National Guide.* For many institutions, long-standing policies on the use of the military *Guide* will pave the way for the formulation of a policy concerning this companion activity. The policies and procedures used by the Program on Noncollegiate Sponsored Instruction were adapted from those governing the military evaluation program, and the two programs are closely similar.

Institutions without policies on the award of credit for extra-institutional learning are encouraged by the Council to develop them. The Board of Directors of ACE and the Council on Postsecondary Accreditation, in the statement "Awarding Credit for Extra-institutional Learning," which appears in this publication, bring this important question to the attention of the academic community and encourage positive action in meeting the educational needs of adult students.

The Council is especially pleased to acknowledge the cooperation of the eight state agencies listed on the title page which have enabled the Program to provide better services to adult students, educational institutions, and noncollegiate organizations in their states. The commitment of these state agencies to provide increased opportunities for adult students and to foster more effective linkages between the collegiate and noncollegiate sectors of postsecondary education attests to a positive direction in American education. The Council encourages other states to join the Program to make available greater opportunities in their states.

The Council is grateful to the Fund for the Improvement of Postsecondary Education for its support of the Program over the past four years, and to the W. K. Kellogg Foundation for its commitment to contribute to the Program's support over the next five years.

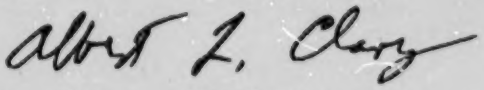
As the Program on Noncollegiate Sponsored Instruction continues to develop, we will look to educational institutions, noncollegiate organizations, and state education agencies for their continued support and advice.

J. W. Peltason
President
American Council on Education

Statement to Members by American Association of Collegiate Registrars and Admissions Officers

The American Association of Collegiate Registrars and Admissions Officers is pleased to acknowledge its continued association with the Commission on Educational Credit and the Program on Noncollegiate Sponsored Instruction.

The National Guide to Credit Recommendations for Noncollegiate Courses further extends the concept of credit awards for learning acquired outside the sponsorship of colleges and universities. Over the years, AACRAO has supported and endorsed the Office on Educational Credit's companion evaluation activity which develops credit recommendations for courses sponsored by the armed services. The ACE publication listing those recommendations, *A Guide to the Evaluation of Educational Experiences in the Armed Services*, is well known to AACRAO members. *The National Guide* should prove equally useful to educational institutions, and AACRAO commends this series to them as they formulate policies and make decisions on awarding credit for noncollegiate courses and other off campus learning.

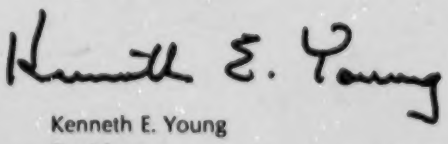


Albert L. Clary
President
American Association of
Collegiate Registrars and
Admissions Officers

Statement from the Council on Postsecondary Accreditation

To insure that all learners receive due recognition for educational accomplishments, wherever acquired, COPA cooperates with the Office on Educational Credit of the American Council on Education in its function of fostering and operating programs to establish credit equivalencies for learning attained outside the sponsorship of postsecondary institutions. Such extra-institutional learning includes formal courses sponsored by the military, business, industry, government agencies, voluntary and professional associations and labor unions. COPA is the national organization that brings together all of the recognized nongovernmental accrediting bodies in the United States, including the postsecondary commissions of the six regional associations. One of COPA's major roles is to serve as a mechanism through which the various accrediting associations identify and take positions on common problems.

COPA commends *The National Guide* to postsecondary institutions as a sound and reliable basis for helping them to determine the award of credit for learning acquired in noncollegiate organizations.



Kenneth E. Young
President
Council on Postsecondary Accreditation

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INTRODUCTION

The purpose of the Program on Noncollegiate Sponsored Instruction is to help people get academic credit for learning they have acquired outside the sponsorship of colleges and universities by providing educational institutions with reliable information to use in making decisions on credit awards. The Program evaluates and makes credit recommendations for formal educational programs and courses sponsored by noncollegiate organizations whose primary function is not education but who offer courses to their employees or members. These noncollegiate organizations include business and industry, labor unions, professional and voluntary associations, and government agencies. The credit recommendations are intended to guide colleges and universities as they consider awarding credit to persons who have successfully completed noncollegiate sponsored instruction. In this way, students will be assisted in receiving academic credit for learning gained through such instruction.

The Program is based on the proposition that it is sound educational practice for colleges and universities to grant academic credit for quality educational programs conducted by noncollegiate organizations, provided that the courses are appropriate to an individual's educational program. Moreover, experience has shown that the award of credit for prior learning will in many cases motivate students to enroll in formal postsecondary programs of study.

The Program was begun in July 1974, upon the recommendation of the Carnegie Commission on Nontraditional Study that the American Council on Education's system of evaluating formal courses offered by the armed services be extended to civilian organizations. The criteria and procedures that ACE has used since 1945 in evaluating military courses were adapted for use by the Program on Noncollegiate Sponsored Instruction.

The Program is national in scope, and ACE coordinates the activities of the state Program offices. The eight states listed on the title page are cooperating with ACE in the conduct of the Program. The Consortium of the California State University and Colleges, the Pennsylvania Department of Education, and the Tennessee Higher Education Commission evaluate courses in their respective states, and the ACE Program office evaluates courses elsewhere in the country. The other cooperating states support Program activities and represent the Program in their state, but do not conduct course evaluations.

All course evaluations are conducted according to the Program policies and procedures approved by the Commission on Educational Credit, the policy making body for the Office on Educational Credit. These policies and procedures appear in Appendix B. ACE's coordination ensures consistency in the evaluation process. A review committee, with members from each Program office, reviews the results of course evaluations throughout the Program. The Review Committee also recommends policy to the Commission on Educational Credit.

The American Council on Education encourages participation in the Program by other state agencies and invites them to cooperate with the Council in the conduct of the Program in their respective states.

This edition of *The National Guide* also contains the results of evaluations conducted in two related activities of ACE's Office on Educational Credit. One activity establishes credit recommendations for apprenticeship programs, eight of which are reported on in this edition. The policies and procedures governing the evaluation of apprenticeship programs closely resemble those used in the Program on Noncollegiate Sponsored Instruction, and were approved by the Commission on Educational Credit in May 1978. A copy of the policies and procedures is available upon request.

The second ACE activity develops credit recommendations for courses offered by home-study schools which are accredited by the National Home Study Council. Here, too, policies and procedures are substantively very close to those used in the Program on Noncollegiate Sponsored Instruction, and were adopted by the Commission on Educational Credit in May 1977. Under these policies, eligibility for review extends only to those accredited home study courses that include a proctored, comprehensive examination. A copy of the policies and procedures are available upon request. The above two activities are carried out directly by the American Council on Education.

THE EVALUATION PROCESS: PROCEDURES AND CRITERIA

The credit recommendations in this Guide are established through a thorough and objective evaluation process.

Noncollegiate organizations participate in the Program on a voluntary basis. Each sponsoring organization selects courses for review with the assistance of the Program staff.

Eligibility

1. Organizations eligible to submit educational programs for review are noncollegiate institutions whose primary focus is not education (such as private industry, governmental agencies, labor unions, and associations) and which offer courses to their employees or members. Also eligible are nonprofit, industry-sponsored organizations whose primary or exclusive purpose is to provide occupationally oriented educational programs to members or to the employees of membership or sponsoring organizations, e.g., professional, trade, or industrial associations.
2. Only educational programs or courses conducted on a formal basis and with official approval of the sponsoring organization are considered. Courses must be under the control of the sponsoring organization. Informal on-the-job training and job experience are not reviewed.

   The following guidelines are provided to organizations in selecting courses or programs for review:

   a. The material presented in each course must be on the postsecondary level.
   b. The course must have a prescribed program of instruction.
   c. The instructors should be selected on the basis of their qualifications to teach the subject matter, including their formal education and experience.
   d. The course should serve people who can use the credit recommendations toward a postsecondary credential.
   e. Appropriate procedures (tests, projects, oral quizzes, etc.) must be used in the courses to evaluate student performance. Correspondence and independent study courses must include a proctored examination administered under secure conditions.
   f. Courses conducted over an extended period of time should normally contain at least 30 hours of instruction.
   g. Intensive courses should normally contain at least 35–40 hours of instruction.
   h. Intensive technical courses involving laboratory or workshop exercises should normally be at least 70–80 hours of instruction.
   i. Individual courses that do not meet the above time requirements may be grouped together for purposes of review.
   j. Courses that have not been offered during the preceding five years will not be reviewed.

Documentation

3. Sponsoring organziations submit, in advance of the review, information concerning the administration of their educational programs. This information helps determine whether the organization demonstrates sufficient stability and control to present its courses for review. Information submitted includes a description of the administration of the training function, procedures for selecting and evaluating instructional staff, procedures for course development, evaluation, and revision, and procedures for insuring consistent quality in programs delivered at multiple locations. This submission becomes part of the Program's permanent record on the sponsoring organization.
4. Each participating organization must maintain permanent and official records of students' participation and performance in any course which is reviewed. The sponsoring organization must demonstrate the capability to store and retrieve student records for the period covered by the credit recommendations.
5. For the evaluation of courses involving classroom instruction, the following information is submitted:

   a. Course syllabus describing the objectives and content.
   b. Instructional materials used for the course (textbooks, audiovisual materials, case studies, problems, etc.).
   c. Required or suggested qualifications of course participants.
   d. Qualifications of instructional staff.
   e. Techniques used to evaluate student performance (including samples, if available).
   f. Duration of the course.

6. For courses and programs involving other instructional approaches, e.g., self-paced or independent study courses, some of the foregoing information is not appropriate to the process. However, appropriate and available items must be provided in sufficient detail to allow each course to be judged by the review team.
7. In conducting course reviews, no fewer than three subject matter specialists are used. The names of potential reviewers are solicited from postsecondary institutions, professional and educational associations, accrediting agencies, and noncollegiate organizations.

   Among criteria considered in selecting course evaluators are:

   a. Area of reviewer compentency as evidenced by formal training and experience in relation to the area of courses being reviewed.

b. Credibility and reputation among colleagues.
c. Teaching experience and other aspects of experience in postsecondary settings including knowledge of curriculum and instruction as evidenced, for example, by having served on a curriculum committee.

The Course Review

8. Review sessions are usually conducted at the location of the organization offering the courses. Organizational staff members familiar with the courses are available to answer questions that may arise during the review of the course materials. After a thorough review of all the information and materials supplied by the organization, the team members first decide if a course is at the college level.

   If it is, they then determine the category of credit (described in the section "How To Use This Guide"), the number of credit hours, and the appropriate subject area or areas to recommend. Whenever the team establishes a credit recommendation for a course, it has determined that the method of assessment is adequate to judge that students successfully completing the course have mastered the subject matter. The team members also review each course exhibit (the description of the course that will appear in *The National Guide*) to insure that it adequately describes the course.

   If the team recommends that no academic credit be granted, the course will not appear in the Guide.

Evaluative Criteria

9. In the exercise of their professional judgment, review team members consider the following factors in determination of a credit recommendation:

   a. The subject matter of a course, its level of difficulty, and its applicability to a range of postsecondary programs. These factors are of primary importance.
   b. Distinctive aspects of noncollegiate education, including the background and selection of both instructors and students, the duration of a course, ongoing application of classroom learning in the students' work, and motivational factors.
   c. Duration and concentration of effort in relationship to the generally accepted practice for determining credit in postsecondary institutions. Normally, academic credit is assigned on the basis of one semester credit hour for each 15 classroom contact hours plus 30 hours of outside preparation or equivalent; one semester credit hour for each 30 hours of laboratory work plus necessary outside preparation or equivalent; one semester credit hour for not less than 45 hours of shop instruction (contact hours or equivalent).
   d. For independent study courses the quality and technical merits of the examinations as measurement instruments, since the examination is the key element in assessing the learning outcomes of an independent study course.

      Credit recommendations made by reviewers are not, however, derived by a simple arithmetic conversion. Intensive courses offered by noncollegiate organizations do not necessarily require as much outside preparation as many regular college courses. Reviewers consider the factors of pre- and post-course assignments, prior work-related experience, the concentrated nature of the learning experience, and the reinforcement of the course material gained in the subsequent work setting.

      In some cases, the team may cluster a group of two or more related courses which individually are too short to be eligible for review. Courses are combined for review only if they form a coherent sequence and can be viewed as components of a larger course. If appropriate, a single credit recommendation is established for the group of courses and it applies only when a student has completed all of them.

Reasons given for failure to recommend credit have included: (1) the course is too limited in scope or too narrowly focused to be comparable to college programs; (2) the material presented in the course is not comparable to courses offered by colleges and universities; (3) adequate evaluation of student performance is lacking; and (4) insufficient material is presented on which to base a judgment.

Updating Recommendations

10. Credit recommendations are kept current by the following procedures:

    a. On an annual basis following the review of a course, a participating organization must submit information on each course for which a credit recommendation has been established. Any indication of a substantive change in a course results in a re-evaluation of the course.
    b. At five-year intervals, each course is reviewed, usually on site, by a subject-matter specialist to determine if the credit recommendation is still applicable. Preferably, this subject-matter specialist will have been a member of the team that established the initial recommendation. The course materials are compared with those used at the time of the initial review. Those courses which are judged to have undergone substantive changes are re-evaluated by a full team.

       The course evaluation procedures used by the American Council on Education in the development of credit recommendations for home study

courses and for apprenticeship programs are substantially the same as those described above. The Policies and Procedures for the Program on Noncollegiate Sponsored Instruction are included as Appendix B. Policies and Procedures for the evaluation of home study and apprenticeship programs are available on request from the ACE program office.

GUIDELINES FOR NATIONAL GUIDE USERS IN COLLEGES AND UNIVERSITIES

Verification of Course Completion

Educational Institutions should require the applicant to verify the fact that he or she has successfully completed such a program or course by having official records submitted. The introduction for each organization listed in *The National Guide* indicates the appropriate source of official student records. Official records may also be supplied by the American Council on Education's Registry of Credit Recommendations. If the student has registered successful course completion in the Registry, he or she can request a transcript be sent to the institution by the Registry.

Awarding Credit

Credit for those courses evaluated by the Program on Noncollegiate Sponsored Instruction should be considered on the same basis as credit accepted by transcript from another institution. In this connection, institutions generally will require the applicant to furnish full information about previous college-level studies and a proposed future program of study before granting credit for such courses.

Applying the Credit to a Student's Program

Credit for each course may be applied to a student's program of study in various ways: (a) applied to the major to replace a required course, (b) applied as an optional course within the major, (c) applied as a general elective, or (d) applied to waive a prerequisite.

Credit for a course taken in a noncollegiate organization should be granted only if the student has not completed a comparable college course. Most often, however, these educational programs do not exactly duplicate college courses but do contain instruction applicable to a general area of collegiate study. In such cases credit can be granted toward required or elective courses in the area, depending on the instructional program at the institution and the specific educational objectives of the individual.

Duplication of Credit

If a student has completed several courses in a noncollegiate organization which are apparently in the same subject area and at the same level, the college official should review the descriptions of these courses to determine if there is duplication of coverage. If it appears that instruction is duplicated among the several courses, officials should apply the credit recommendations so as to avoid granting duplicate credit for the courses. Duplication of course material is noted only for courses of a single sponsoring organization. Users of *The National Guide* must make their own determination about duplication of course material in courses offered by different organizations.

Interpreting Grades from Noncollegiate Organizations

Grading systems vary widely among noncollegiate organizations. Most organizations award certificates of successful completion on a pass/fail basis, with no attempt to apply traditional grading practices. A recommendation of academic credit for a course taken in a noncollegiate organization should, therefore, be interpreted as being applicable when the student presents official evidence of having successfully completed or passed the course.

Awarding Credit for Courses Listed in The National Guide but Not Covered by the Dates of the Recommendations

Sometimes a student will request credit who has completed a course listed in *The National Guide* prior to the beginning date of the recommendation or after the closing date. The recommendations in *The National Guide* are backdated to the point that the course was first offered in substantially the same form. Sometimes the beginning date indicates the earliest records kept by the organization, even though the course was offered prior to that date. In these cases, institutions can use *The National Guide* as a point of departure in their own assessment.

When students request credit for a course not covered by the recommendations, institutions should, as always, verify the students' completion with the official record. Students should provide additional information on the course, perhaps a course outline or catalogue from the sponsoring organization, so that the institution can compare that course with the one listed in *The National Guide*. Using the Guide, the institution can then make its own assessment.

QUESTIONS AND ANSWERS FOR COUNSELORS AND ADVISORS OF ADULT STUDENTS

This section is intended for use by those in noncollegiate organizations whose responsibility it is to help employees or members make best use of the credit recommendations. Further advice and assistance is available from the Program Advisory Service through the offices listed on page xv.

How many credits is each course worth? The recommended number of credits for each course is listed at the end of each course exhibit in *The National Guide.* This recommendation is made by a team of subject matter experts when it has determined that a course is at the college level.

These are recommended credits. A college is not required to grant a student credit in the amount recommended by the reviewers nor, in fact, is a college limited to that amount should it feel that a person's performance in the course deserves additional credit.

How are the credit recommendations used? Primarily to obtain college credit or advanced college placement. It may also be possible to use the credit recommendations for entry into new areas of employment, for job advancement, to obtain salary benefits, and for personal assessment.

Is college credit automatically earned when someone successfully completes a course listed in *The National Guide*? No. Successful completion of such a course results in actual course credit only when the course is accepted toward a degree or certificate at a postsecondary institution. A student who has already taken one of the courses listed in *The National Guide,* or who plans to take one, should contact the admissions office at the college he or she plans to attend to determine the acceptability of the course for academic credit.

Are policies for granting credit the same in all colleges? No. Each college sets its own policies, and these vary from college to college. While one college might not grant credit for successful completion of a course conducted by a noncollegiate organization, others might. It should also be noted that a college may not grant credit but may, instead, waive a prerequisite or a required course.

Each institution and, in many cases, each academic unit and department within each institution, sets its own policies for granting credit. The admissions office in a college should be able to guide students to the appropriate official responsible for making the decision for granting credit.

What should be done if it is found that the organization's official records or the credit recommendations are not being accepted by some colleges? The appropriate Program office should be promptly informed. Often mere lack of familiarity with the Program at some college offices accounts for such a refusal and that can be dealt with by a phone call or letter from the appropriate Program office. Counselors and advisors should develop a list of colleges whose policies are favorable to the educational requirements of their employees, so as to spare the student the time and expense of trial and error.

How much credit may be earned from courses taken in noncollegiate organizations? Institutions have different policies regarding the amount of credit that may be earned off-campus. The student should check with the college he or she plans to attend to determine both the amount of credit which will be granted for such courses and the subject areas in which the college will grant credit for these courses.

When will credit be awarded? In most cases a person should apply for credit when formally applying for admission to a college. Some colleges may grant credit only provisionally at that time and withhold full credit until the student successfully completes either some courses they offer or a specific number of credits.

Can credit be earned for a course completed in the past or taken from a former employer? Yes. The credit recommendation established for each course described in *The National Guide* can be used by anyone who successfully completed the course during the period listed in the "Dates" section of each course exhibit. When "Present" is given as the second date, this indicates that the course is still being offered by the organization as of the publication date for this edition of *The National Guide.* Each organization listed in *The National Guide* keeps records of its present and former employees who completed the courses during the periods indicated and will supply them upon request.

Is there a minimum acceptable performance level before credit will be awarded? Yes. A college will consider granting academic credit to a student for a course only after it has received an official record from the sponsoring organization or a transcript from the ACE Registry (see below) verifying that the person successfully completed the course.

How are student records for courses listed in *The National Guide* reported to colleges? The sponsoring organization provides the official record at the student's request. If the course completion is registered with the American Council on Education's Registry of Credit Recommendations, the Registry records office will issue an official record at the student's request. Information about the ACE Registry is available from the Program Advisory Service.

The official record or transcript from the Registry will enable a college official to verify that the student successfully completed the course and the date of completion. The source of official student records for each organization is noted in the introduction under each organizational heading.

How are courses listed in *The National Guide* selected for review? Each sponsoring organization selects the courses it would like to have reviewed with the assistance of the Program staff. Individual students may not submit courses for review. Only educational programs conducted on a formal basis and with official approval of the sponsoring organization are listed in *The National Guide.*

Can a person earn credit for courses offered by noncollegiate organizations which are not listed in *The National Guide?* Yes. Some institutions will evaluate students' knowledge individually, either by means of national standardized proficiency examination programs such as the College-Level Examination Program (CLEP) and the College Proficiency Examination Program (CPEP), or by assessment of individual learning experiences through portfolios, or institutional examinations. A student should consult with an advisor at the institution where he or she is enrolled or contemplating enrollment to learn how credit might be awarded for prior learning.

HOW TO USE THIS GUIDE

The National Guide is intended for use in the academic counseling of students. The credit recommendations and course descriptions provide information for education officials to consider when granting credit to students for learning acquired in noncollegiate organizations.

In order to make the best use of *The National Guide,* careful consideration should be given to this section. It explains the types of courses which may be found in *The National Guide,* how to locate a particular course exhibit, how to interpret course exhibits, how the credit recommendations might be used, and how to receive assistance from the Program offices.

The courses listed in *The National Guide* represent only a small sample of the educational programs conducted by the participating organizations. In addition, many other organizations in the United States conduct a wide range of quality educational programs for their employees or members. These are not included in this edition of *The National Guide* because they have not been submitted for review. Readers are cautioned against making adverse judgments on the educational programs of any noncollegiate organization merely because they are not listed in *The National Guide.* Students who have completed such unlisted courses should be given every consideration in accordance with institutional policies and practices.

It is the policy of the Program to include in *The National Guide* only those courses for which credit recommendations have been made. However, the Program office will inform college officials, upon request, if a particular course for one of the participating organizations was reviewed and no credit recommended.

How to Locate a Course Exhibit

Each course in *The National Guide* is listed in the index and in the text alphabetically by title under the name of the organization that offers it. Therefore, it is necessary to identify the sponsoring organization before a course can be located. In some cases, a group of courses that form an integrated program are reviewed; these courses and a paragraph describing the program are listed alphabetically under the title of the program.

How to Read a Course Exhibit

After each organizational heading there is an introduction that provides general information about the organization, its training and educational activities, the source of official records of student performance in its courses, and the Program office to contact for additional information about the courses. Following the introduction, each course exhibit identifies the course and provides specific information about the course content and the credit recommendation.

Each course exhibit provides the following information, as illustrated on page xx.

Title: Official course title used by the organization. In some cases, an additional title or subtitle has been assigned by the evaluation team for purposes of explanation and clarity; this title, listed in parentheses below the official title, is not used by the organization. The same is true of a course title that has been assigned by a team to a group of courses. This title appears first, in parentheses, and is followed by a listing of the courses that have been evaluated together to arrive at the credit recommendation. A course may also be divided into *parts* by the evaluation team, in which case the title assigned by the organization is given first, followed by the parts which have been created by the team. Titles assigned to these parts are also listed in parentheses, since they have been created by the evaluation team.

Course Number: Official course number, when provided by the organization, in parentheses following the course title.

Location: The site(s) where the course is offered. Correspondence and independent study courses are identified as such.

Length: Duration of the course in contact hours and, when appropriate, in days or weeks. The length is followed by any additional relevant information describing the course. The term "residential" indicates that the students reside at the location where the course is given for the duration of the course. Correspondence and independent study courses are identified as such.

Dates: The beginning and ending dates of the course, expressed by month and year. The dates cover the period during which the course has been offered with substantially the same content and procedures as at the time of its review; the credit recommendation applies to a person who successfully completed the course during that period. The first date indicates the time from which the recommendation first applies; the second, the time at which the recommendation ceases to apply. When "Present" is given as the second date, it indicates that the recommendation applies as of the publication date for this edition of *The National Guide.* Program policy is to backdate a credit recommendation no more than 10 years prior to the review date.

Course Versions: Generally, more than one version of a course indicates that a newer version of the course has replaced an earlier one. The reader should be guided by the *dates* section. When a course has been modified, a closing date will be indicated for the earlier version, with the newer one beginning shortly after the closing date of the first version. Most often, *present* will be listed as the second date for the newer course, indicating that the course is still offered. When *both* versions have *present* as the closing date, the two versions are offered concurrently.

If a course has been modified, this will be indicated by

the multiple *versions*. The date of modification will be indicated under *dates*. Wherever the change has occurred, in the length, objectives, instruction or credit recommendation, the reader should be guided by the listing for each version in the *dates* section.

Objective: The purpose for which the course is offered.

Instruction: A description of the major topics covered and teaching methods, materials, and equipment used. Together, the objective and instructional description supplement the credit recommendation by providing essential information about the nature of the course.

Credit recommendation: The category of credit, the number of semester hours recommended, the appropriate subject area(s), and the date reviewed.

1. *Categories of Credit:*

   a. *Vocational Certificate.* This category includes course work normally found in year-long certificate programs which are designed to provide students with occupational skills; in many two-year institutions, they are also found in curricula leading to associate degrees in technical programs. Course content is specialized, and the accompanying shop training emphasizes procedural rather than analytical skills.

   b. *Lower Division Baccalaureate/Associate Degree.* This category includes course work found in programs leading to the Associate in Arts, Associate in Science, and Associate in Applied Science degrees and introductory-level course work normally found in baccalaureate programs. Emphasis is on learning basic principles that have broad, judgmental application.

   c. *Upper Division Baccalaureate.* This category includes course work usually completed during the last 2 years of a baccalaureate program. The courses generally involve specialization of a theoretical or analytical nature beyond the introductory level.

   d. *Graduate Degree.* This category includes course work leading to a graduate degree. The courses tend to be oriented toward independent study, original research, critical analysis, and the scholarly and professional application of the specialized knowledge within a discipline.

   NOTE: In some instances, credit is recommended in more than one category. A decision must be made by the college as to which category of credit best applies to a student's educational program.

2. *Semester Hours:* All credit recommendations are made in semester hours. Credit recommendations are not derived by simple arithmetic conversion of contact hours to semester hours; the review teams base their recommendations on both the range and level of complexity of the subject matter covered and the number of contact hours.

3. *Subject Area(s):* In alphabetical order, the recommended subject area(s) in which credit might be applied. The designation of these general areas does not exclude the application of the credit recommendation to other areas not mentioned in the course exhibit.

4. *Date of Review:* The month and year in which the credit recommendation was established is listed in parentheses following the subject area(s).

Verifying Student Records

Students who apply for credit for courses conducted by noncollegiate organizations should be required to submit official records to verify that a course was successfully completed. Each organization will supply official records at a student's request. The source of official records for each organization is identified in the introduction following each organizational heading.

Official records may also be supplied by the American Council on Education's Registry of Credit Recommendations. Students who have registered course completion in the ACE Registry can request that an official record be sent by the Registry records office to an educational institution.

Awarding Credit Based on the Recommendations

Course information and credit recommendations are provided in *The National Guide* to assist college officials in assessing the applicability of a student's education in a noncollegiate organization to his or her program of study. Actual credits granted will depend on an institution's degree requirements and general policy on granting credit for college-level learning achieved outside that institution.

Credit for each course may be applied to a student's program of study in various ways: (a) applied to the major to replace a required course, (b) applied as an optional course within the major, (c) applied as a general elective, or (d) applied to waive a prerequisite.

Duplication of Credit

A student may take several courses which are apparently in the same subject area and at the same academic level. Thus, institution officials should carefully review the course objective and instructional description in *The National Guide* for each course the student completed and for which credit is requested. If it appears that major topics of instruction are duplicated among the several courses, officials may wish to adjust the credit recommendations in order to avoid granting duplicate credit. Duplication of course material is noted only for courses of a single sponsoring organization. Users of *The National Guide* must make their own determination about duplication of course material in courses offered by different organizations.

Advisory Service

A continuing advisory service is provided by each Program office. Publication of *The National Guide* on a regular basis is part of that service. After each edition of *The National Guide* is published, the Program will continue to evaluate courses. The official results of a course review are sent as soon as possible after the review to the sponsoring organization for general distribution to its employees and members. The advisory service will furnish information on these courses awaiting publication and will offer assistance in the interpretation of published results.

Courses awaiting publication will be listed in the *OEC Newsletter,* which is distributed to educational institutions and noncollegiate organizations three times a year.

The appropriate Program office to contact for assistance in regard to a particular course is indicated in the introduction to each group of course exhibits. The address of each office is:

Program on Noncollegiate Sponsored Instruction
Office on Educational Credit
American Council on Education
One Dupont Circle, N.W.
Washington, D.C. 20036
Telephone: (202) 833-4770

Program on Noncollegiate Sponsored Instruction
The Consortium of the California State University and Colleges
400 Golden Shore
Long Beach, California 90802
Telephone: (213) 590-5696

Program on Noncollegiate Sponsored Instruction
Office of Life-Long Learning
Department of Education
Box 911
Harrisburg, Pennsylvania 17126
Telephone: (717) 783-8228

SAMPLE COURSE EXHIBIT

Program Title: Title for group of courses assigned by sponsoring organization.

Course Title: Title for each course assigned by sponsoring organization.

Location: All locations where course is given (both versions). In one version, the three courses are 50 hours (given over 25 days) in length. This version is given in Sunnyvale, California. In the second version, the three courses are 48 hours (given over 6 days) in length and are given in the other locations cited in the location section.

Length: Duration of the course in contact hours and number of days or weeks over which instruction is delivered.

Dates: Period during which credit recommendation applies. First date denotes beginning point of credit recommendation; second date denotes when course was eliminated or when credit recommendation ceases to apply. Present denotes publication cut-off for this edition of *The National Guide* (10/78).

Objective: The purpose for which the course was designed; applies to all versions.

Instruction: Description of instruction, including teaching methods, facilities, equipment, major subject areas covered. Normally applies to all course versions.

Credit recommendation: Given in four categories: vocational certificate; lower division baccalaureate/associate degree; upper division baccalaureate; and graduate. Expressed in semester hours. Date of evaluation, month and year, in parentheses following each recommendation.

ATLAS-L Programming

1. **ATLAS Language Programming (D3214)**
2. **C4 SACE ATLAS-L Digital, PCM and Events Testing (D3211)**
3. **C4 SACE ATE TABLES Programming (D3212)**

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; POMFLANT, Charleston, SC; SWFPAC, Bangor, WA; Cape Canaveral, FL.

Length: *Version 1:* 50 hours (25 days); Lockheed, Sunnyvale (all three courses).
Version 2: 48 hours (8 days); field locations (all three courses).

Dates: October 1974–Present.

Objective: To develop an understanding of and ability in programming abbreviated Test Language for Avionics Systems—Lockheed (ATLAS-L), a pseudo-English, problem-oriented programming language.

Instruction: This three-course sequence describes the structure and applications of the ATLAS-L language as used with the C4 Automatic Test Stations, including Digital, PCM, and Events Testing, and presents a description of the structure of ATLAS-L ATE TABLES programming. Methodology includes lectures, problem examples, and workshops.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (6/77). NOTE: All three courses must be completed in order to receive credit.

COURSE EXHIBITS

American Institute of Banking—Correspondence Program

The American Institute of Banking (AIB) is an educational division of the American Bankers Association, the national organization of the banking industry. Its total membership includes some 18,500 banks and branches, about 97 percent of the nation's commercial banks. AIB is part of the Education Group, one of the six working groups of the Association.

AIB has over 500 chapters throughout the United States and more than 100,000 annual enrollments in individual courses. A chapter is organized in a community only if there is assurance that the Institute's work can be carried on from year to year. All activities are initiated by the local chapter, including the choosing of courses and programs, the selection of instructors, and the arrangements for classroom facilities. While chapters work in cooperation with the national AIB office, each chapter is administratively autonomous. As a result, credit recommendations established for courses offered by a specific chapter apply only to that chapter.

The American Institute of Banking (AIB) sponsors a correspondence program in contemporary banking subjects for employees of banking institutions in the United States and overseas. The correspondence program is useful to students who need refresher work, to persons desiring courses not offered by their local AIB chapter, and to persons whose schedule permits only independent study.

The AIB National Office provides each student with the official textbook for each course and practical exercises which include aids to more effective study. Bank officers, university professors, and other qualified experts review the course work and provide individual responses to the student. When all exercises have been completed by a student, a bank officer supervises the final examination provided by the National Office. The maximum time allowed for completion of a correspondence course generally is 15 months.

Source of official student records: Director of Education and Training, American Institute of Banking, 1120 Connecticut Avenue, NW, Washington, D.C. 20036.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Accounting, Part I (R001)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1969–Present.

Objective: To provide the student with a basic understanding of accounting theory and practice, including the preparation of financial statements.

Instruction: Fundamentals of accounting theory, including use of journals and ledgers, the preparation of financial statements, accounting for notes and interest, the use of a voucher system, and accounting for partnerships.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (3/75).

Accounting, Part II (R0030)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1967–Present.

Objective: To provide the student with a further understanding of accounting principles and practices, including corporation accounting.

Instruction: A continuation of Accounting I, including corporation accounting, departmental accounting, inventory valuation, plant assets and depreciation, manufacturing cost accounting, and basic statement analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (3/75).

Analysis of Financial Statements (R0032)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1970–Present.

Objective: To provide the student with an understanding of the concepts and tools of financial statement analysis.

Instruction: The use of ratio analysis, source and application of funds analysis, and earnings analysis to evaluate the financial condition and earnings of business firms, including tests applied in appraising the financial soundness of firms.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Finance (3/75).

Bank Investments (R0033)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972–Present.

Objective: To provide the student with an understanding of bank investment in marketable securities.

Instruction: This course describes the nature of primary reserves and loanable funds and how their uses are determined. It also analyzes the primary and secondary reserve needs of commercial banks, the sources of reserves, and their random and cyclical fluctuations, and shows the influence of these factors on investment policy. This analysis is followed by a study of yield changes as they affect a bank's long-term holdings.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking, Business Administration, or Finance (3/75).

Bank Letters and Reports (R0010)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965–Present.

Objective: To enable the student to write bank letters and reports of acceptable quality.

Instruction: Emphasizes fundamental principles underlying quality correspondence; reviews different types of bank-written communications, such as collection letters, letters pertaining to loans and trusts, and departmental and branch reports.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Business Communications (3/75).

Bank Management (R0020)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1970–Present.

Objective: To provide the student with an understanding of the application of management principles to banking.

Instruction: Formulation of objectives, organizational planning and staffing, and management controls with application to bank functions such as loans, investments, and trusts; use of cases to illustrate the application of principles.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (3/75).

Business Administration (R0065) (Introduction to Business)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965–Present.

Objective: To give the student an overview of business organizations and how they operate in the United States.

Instruction: An overview of the types and structures of business organizations. Emphasis is placed on the managerial responsibility of coordinating the many facets of a business enterprise. Stresses administration, financial management, production, labor-management relations, marketing, coordination and control, and public relations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (3/75).

Business Financial Management (R0405)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: December 1974–Present.

Objective: To provide the student with an understanding of the principles and techniques of financial decision making.

Instruction: Determination of the firm's needs for financing; sources of funds, including trade credit, bank loans, and the market for long-term securities; management of working capital, present value analysis and capital budgeting; use of cases to apply the principles and techniques to business finance problems.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Finance (3/75).

Business Mathematics (R0013)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1972–Present.

Objective: To provide the student with skills in business arithmetic and accounting terminology in preparation for a course in accounting principles.

Instruction: This course in quantitative methods is designed for the student who requires refresher work in the fundamentals of business mathematics. Basic applications of mathematics are examined to develop computations for personal banking records, inventory and turnover, charges for credit, sales activities and records, depreciation, discount and interest, promissory notes, and securities transactions. Workbook problems are used with each lesson.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (3/75).

Credit Administration (R0034)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972-Present.

Objective: To provide the student with a basic understanding of credit administration.

Instruction: The principles of credit and loan administration are covered through a survey of working capital loans, secured loans, term loans, real estate loans, credit investigation, and the responsibilities of the bank lending officer.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Federal Reserve System (R008)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972-Present.

Objective: To provide the student with a historical perspective and understanding of the basic policies of the Federal Reserve System.

Instruction: This course examines the operations and policies of the Federal Reserve System. The approach taken is topical rather than chronological, thereby enabling students to compare and contrast Federal Reserve policies dealing with similar problems at different periods of time. Attention is given to international monetary affairs and economic developments affecting the American fiscal system.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Economics, or Finance (3/75).

Home Mortgage Lending (R0036)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965-Present.

Objective: To provide the student with an overview of home mortgage investment by savings and commercial banks.

Instruction: An introduction to the home mortgage field; the mortgage market; the mortgage portfolio; appraisal; credit analysis; legal aspects; and the processing and servicing of the mortgage.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking or Finance (3/75).

Installment Credit (R0037) (Consumer Credit)

Location: Correspondence, American Institute of Banking National Office.

Length: 13 lessons.

Dates: September 1965-Present.

Objective: To provide the student with a basic knowledge of installment credit and its administration.

Instruction: Techniques of installment lending. Emphasis is placed on establishing credit, obtaining credit information, and loan servicing and collections. Other topics include inventory loans, rate structure, and advertising.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

International Banking (R0052)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1966-Present.

Objective: To provide the student with an understanding of the fundamental concepts of international banking and finance.

Instruction: Basic framework of international banking; foreign exchange; international lending principles; role of international agencies such as the Export-Import Bank, the International Monetary Fund, and the World Bank.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Economics (3/75).

Law and Banking (R009) (Business Law I)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1971-Present.

Objective: To provide the student with a basic knowledge of the concepts of business law.

Instruction: Introduction to law, covering such topics as jurisprudence, the court system, contracts, property, torts, agencies, partnerships, corporations, sales of property, commercial paper, and bank deposits. Emphasis is on the Uniform Commercial Code.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration (3/75).

Management of Commercial Bank Funds

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1975-Present.

Objective: To provide the student with an understanding of the principles of funds management in commercial banks.

Instruction: Emphasis is placed on the importance of funds management in coordinating policies on loans, deposits, investments, and capital.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Money and Banking (R0012)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965–Present.

Objective: To provide the student with an understanding of basic monetary theory and policy, with emphasis on the function of the banking system in the economy.

Instruction: Structure of the commercial banking system; creation of bank deposits; Federal Reserve policies and operations; Treasury operations in the money market; money and the price level; problems of international finance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Economics (3/75).

Principles of Bank Operations (R0038)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1966–Present.

Objective: To provide the student with an understanding of the fundamentals of bank functions.

Instruction: A survey of bank functions and operations, including teller operations, savings and time deposits, bookkeeping operations, loans and investments, determination of service charges and legal relationships with depositors.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Savings and Time Deposit Banking (R0046)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1968–Present.

Objective: To provide the student with an understanding of the savings function in the economy and the administration of time deposits in deposit-type savings institutions.

Instruction: The savings function and its relationship to the economy; the various forms of savings; the impact of interest rates; types of savings institutions; asset management policies; and regulatory agencies.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Banking, Business Administration, or Finance (3/75).

Trust Functions and Services (R006)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1971–Present.

Objective: To provide the student with a basic and fundamental knowledge of the principles and policies underlying the various fiduciary services offered by financial institutions.

Instruction: Survey of all important services and functions of a trust department in a financial institution; property and property rights, wills, settlement of estates, responsibilities of executors and administrators, personal agencies, corporate agencies, employee trusts, pension trusts, and community and institutional trusts and agencies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

American Institute for Property and Liability Underwriters/Insurance Institute of America

The American Institute for Property and Liability Underwriters and The Insurance Institute of America are companion educational organizations directly supported by the property-liability insurance industry to help meet its personnel development and professional education needs.

The American Institute for Property and Liability Underwriters is responsible for administering the Chartered Property Casualty Underwriter (CPCU) Program. The Insurance Institute offers programs in General Insurance, Insurance Adjusting, Management Studies, Risk Management, and Underwriting. Boards of Trustees made up of representatives of all segments of the property-liability insurance community—mutual and stock companies, agency and brokerage firms, and educators—govern the Institutes.

Courses are offered throughout the United States and abroad utilizing three types of instruction: (1) formal classes, which may be publicly offered on campuses or privately conducted at insurance companies; (2) informal study groups, which may have a designated leader or

shared leadership, or (3) independent study, which primarily benefits those individuals who, because of distance and time factors, choose to study at their own pace requiring a high degree of self-discipline. The Institutes supply all students, whether using the formal class, study group or independent study method, with current topical outlines which list the assigned textbooks and their publishers, the weekly readings, illustrative questions applicable to each topic, and suggested effective study methods.

Each of the Institute's national examinations is made up of a series of essay questions, which tests a candidate's ability to master a body of knowledge and to communicate it clearly to others. The Insurance Institute's program examinations are 3 hours in length; CPCU examinations are 4 hours.

Source of official student records: Dean of Examinations, American Institute for Property and Liability Underwriters, Insurance Institute of America, Providence and Sugartown Roads, Malvern, Pennsylvania 19355.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

CPCU Program

The goals of the five CPCU courses listed below are to enable students to (1) understand major property and liability insurance contracts and the functions insurers perform in providing insurance protection, (2) apply principles of economics, law, finance, and accounting to property-liability insurance as an economic and social institution, and (3) develop the professional attitudes and communication skills needed to channel their knowledge and energy to best serve the insurance public.

Students who satisfactorily complete all five national examinations and meet ethical and experience requirements are awarded the Chartered Property Casualty Underwriter (CPCU) professional designation.

Analysis of Insurance Functions (CPCU II)

Length: 30 lessons.

Dates: May 1967-Present.

Objective: To develop a thorough understanding of the functional characteristics of insurance company operations, insurance products and services (including loss prevention), and the environment within which the insurance industry operates.

Instruction: Analyzes the formation and organization of insurers, insurance marketing, risk selection, reinsurance, rate making and reserves, loss prevention, the preparation and scope of insurers' financial statements, and claim management. Course also covers human motivation and professional ethics. Students have the option of pursuing an in-depth study of one of three specialty areas of insurance—adjusting, risk management, or underwriting.

Credit recommendation: In the graduate degree category, 3 semester hours in Insurance; or in the upper division baccalaureate category, 6 semester hours in Insurance (5/77).

Economics; Government and Business (CPCU III)

Length: 30 lessons.

Dates: May 1967-Present.

Objective: To develop a basic understanding of micro and macro economics and the application of economics to public policy.

Instruction: National income accounting; price determination; income distribution; monetary and fiscal policy; the theory and practice of international trade; public finance; the economics of the firm under competition, oligopoly, and monopoly. It also treats government regulation of business, particularly of insurance, in an era of growing social responsibility. Antitrust regulation and the control of competition receive special attention, as does the protection of consumers.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Business Administration or Economics (5/77).

Insurance and Business Law (CPCU IV)

Length: 30 lessons.

Dates: May 1967-Present.

Objective: To develop a basic understanding of business and insurance law.

Instruction: The treatment of contract law is followed by several topics on the distinctive features of insurance policies as contracts. The principles of agency and tort law are illustrated extensively with examples and special situations from an insurance setting. This course also contains at least one topic on the law of bailments, commercial paper, corporations, partnerships, real property, and sales.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Law or Insurance; or in the upper division baccalaureate category, 6 semester hours in Business Law or Insurance (5/77).

Insurance Principles and Practices (CPCU I)

Length: 30 lessons.

Dates: May 1967-Present.

Objective: To provide an in-depth understanding of insurance principles and practices as they are related to contract analysis and application.

Instruction: Covers the nature of risk, risk-handling techniques, provisions of the standard fire insurance contract and many loss exposures such as: business interruption, ocean and inland marine, general liability, worker's compensation, automobile accidents, fidelity, surety, crime, boiler and machinery. Includes an in-depth study of the insurance contracts applicable to the aforementioned risks, and a survey of individual and group life insurance, annuities, and social insurance.

Credit recommendation: In the graduate degree category, 3 semester hours in Insurance; or in the upper division baccalaureate category, 6 semester hours in Insurance (5/77).

Management, Accounting and Finance (CPCU V)

Length: 30 lessons.

Dates: May 1967–Present.

Objective: To develop an understanding of the principles and applications of accounting, corporate finance, and management.

Instruction: Topics in management are structured around five basic management functions: planning, organizing, directing, leading, and controlling. The accounting topics cover accounting terms and concepts, and their application in managerial decisions and in the interpretation of financial statements. The topics devoted to corporate finance are designed to teach the objectives of financial management and the available methods of obtaining and using financial resources to maximize the profits of a firm.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management and 4 semester hours in Accounting/Finance; or in the graduate degree category, 3 semester hours in Financial Management (5/77).

General Insurance Program

The courses listed below comprise the curriculum of the General Insurance Program. Each twelve week course is designed for persons requiring a basic knowledge of property-liability insurance. Underwriters, special agents, agency personnel, claims persons, and supportive service personnel in accounting, data processing, purchasing, personnel, and communications have found the program to be of significant educational value.

The program serves as a key part of the personnel development program of many property-liability insurers and has been adopted as an official education program by the Independent Insurance Agents of America, the National Association of Mutual Insurance Agents, and the National Association of Insurance Women.

Casualty Insurance (INS 23)

Length: 12 lessons.

Dates: May 1967–Present.

Objective: To provide concepts peculiar to the common casualty, surety, and multiple-line contracts. Primary emphasis is placed on understanding coverages, and policy provisions.

Instruction: Contracts studied include the Family Automobile Policy; Workers' Compensation and Employers' Liability Policy; Owners', Landlords', and Tenants' Liability Policy; Comprehensive General Liability Policy; comprehensive personal liability coverage; life and health insurance coverages; the liability insurance aspects of modern multiple-line contracts.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Insurance (5/77).

1. General Principles of Insurance (INS 21)
2. Property Insurance (INS 22)

Length: 1. 12 lessons.
2. 12 lessons.

Dates: May 1967–Present.

Objective: *Course 1:* To provide an understanding of the basic principles of insurance as well as the nature and operation of the insurance business. *Course 2:* To provide an understanding of coverages, policy provisions and concepts common to property insurance.

Instruction: *Course 1:* Analyzes the use of probability distributions; indemnity; insurable interest; coinsurance; subrogation; proximate cause; requisites of insurable risk; use of deductibles; valued policies. Insurance company operations such as rate making, underwriting, marketing, and adjusting are considered along with government regulations, reinsurance, and company organization. Emphasizes the study of the powers and functions of insurance agents and brokers. The historical development of insurance and the classifications of field organizations are also studied. *Course 2:* Contracts and forms include standard fire policy, extended coverage endorsements, dwelling and contents form, building and contents form, bailees' customers policy, and property coverages provided by multiple-line contracts.

Credit recommendation: *Course 1:* In the upper division baccalaureate category, 2 semester hours in Insurance (5/77). *Course 2:* In the upper division baccalaureate category, 1 semester hour in Insurance (5/77). NOTE: Students should receive credit for Course 2 only if they have taken Course 1.

Insurance Adjusting Program

The courses listed below are part of the Insurance Institute's Insurance Adjusting Program which are designed for all persons working in the field of property loss and liability claim handling.

As an integral part of the training of many staff, bureau, and independent claims personnel these 13 week courses have been adopted as part of the official education program of the National Association of Independent Insurance Adjusters, which initiated the program's development, the General Adjustment Bureau and many insurance companies.

Liability Insurance Adjusting (ADJ 36)

Length: 13 lessons.
Dates: May 1967-Present.
Objective: Covers the concepts of legal duty, breach of legal duty, doctrine of proximate cause, and the evaluation of damages; explores the basis of legal liability; the investigation and disposition of liability claims.
Instruction: Included is a consideration of introductory material on medical knowledge needed by adjusters, a study of adjuster-lawyer and adjuster-physician relationships, and special problems regarding the settlement of workers' compensation claims. Investigation and evaluation problems are examined at a more advanced level than previous courses in the program.
Credit recommendation: In the graduate degree category, 3 semester hours in Business, Business Law, or Insurance (5/77).

Principles of Insurance and Liability Claim Adjusting (ADJ 32)

Length: 13 lessons.
Dates: May 1967-Present.
Objective: To introduce the student to basic liability claim adjusting and the human behavioral response. The functional areas of rating and underwriting, as well as the subjects of regulation, reinsurance, and company organization are explored.
Instruction: Includes legal liability hazards and the investigation, evaluation, negotiation, and settlement of bodily injury and property damage claims. Emphasis is given to adjustment of automobile liability and physical damage claims and losses. The student is introduced to the fundamental concepts of the no-fault approach to automobile insurance reform. Special attention is devoted to the subject of understanding human behavior of claimants.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business, Business Law, or Insurance (5/77).

Principles of Insurance and Property Loss Adjusting (ADJ 31)

Length: 13 lessons.
Dates: May 1967-Present.
Objective: To explore many of the principles basic to the field of insurance, and to develop an understanding of the fundamental areas in property loss adjusting.
Instruction: Consideration is given to such important topics as indemnity; insurable interest; coinsurance; subrogation; proximate cause; other insurance; requisites of insurable risk; deductibles; valued policies; probability and other topics as they are applicable to the adjustment of losses. Emphasis is also given to the adjustment procedure including the collecting, recording of information, determination of the insurer's liability, methods used in fixing values or loss, investigation and settlement. Claim analysis and reporting are included. Special attention is given to estimation of building losses, construction costs and adjustment of personal property losses.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business, Business Law, or Insurance (5/77).

Property Insurance Adjusting (ADJ 35)

Length: 13 lessons.
Dates: May 1967-Present.
Objective: To provide in-depth information on the subject of apportionment, insurable interest, loss estimation, and limitations on the amount of insurer's liability (including replacement cost and contribution).
Instruction: Considers adjustment of building losses (including valuation), merchandise and fixture losses, reporting form losses, and business interruption insurance losses.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business, Business Law, or Insurance (5/77).

Management Studies Program

The courses listed below comprise the Management Studies Program which is primarily designed for practicing managers who have not had a systematic study of contemporary management principles, practices and problems. A unique aspect of the program is its use of studies drawn from the property-liability insurance field. Case studies provide the students with the opportunity to apply the managerial concepts. Throughout the program, particular emphasis is placed on the human elements of management.

Management and Human Resources (MGT 42)

Length: 13 lessons.
Dates: May 1969-Present.
Objective: To provide the student with an understanding of human behavior within an organization.

Instruction: Utilizes the behavioral sciences to provide analytical tools and ways of studying the behavior within organizational settings. A series of cases assist in the development of skills in diagnosing "people problems" and determining effective ways of responding to them as a manager. The emphasis is on the development of practical solutions to problems affected by human considerations.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (5/77).

Management in a Changing World (MGT 44)

Length: 13 lessons.

Dates: May 1970–Present.

Objective: To examine management decision-making within the context of broad social and political considerations.

Instruction: Consideration is given to the political and social environment and the constraints which it places on management. Also considers trends in management practices and emerging concepts about the management of human and technological change.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (5/77).

Managerial Decision Making (MGT 43)

Length: 13 lessons.

Dates: December 1969–Present.

Objective: To acquaint students with modern decision-making tools and techniques.

Instruction: Develops a systematic framework for the evaluation of decisions. Particular attention is given to the sources of inaccuracy and error in the making of decisions. In addition to the study of the human decision process as it exists within an individual, the course also investigates the organizational decision-making process as well as the role of the computer in an organization.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (5/77).

The Process of Management (MGT 41)

Length: 13 lessons.

Dates: December 1968–Present.

Objective: To introduce the student to the study of management and managerial problem-solving.

Instruction: Develops the major functions in the management process: organization, motivation, planning and control, and also some of the analytical tools used by managers. Cases based on actual organizational experience provide opportunities to apply concepts in solving management problems.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (5/77).

Risk Management Program

The courses listed below comprise the Risk Management Program, which was initiated with the support of the Risk and Insurance Management Society (RIMS). The program is aimed at enhancing the performance of persons whose career responsibilities involve recommending or implementing risk management techniques for an organization or organizations. Insurance producers, consultants, commercial-lines underwriters, safety engineers, and corporate or governmental risk managers may all have risk management responsibilities. They may be involved with the design or administration of a variety of risk management techniques, including but not limited to insurance, to cope with the risks of accidental losses facing the organizations they serve.

The goal of the program through its courses is to enable candidates to apply a logical, five-step process for making risk management decisions which contribute directly and concretely to an organization's profits and productivity.

Risk Control (RM 55)

Length: 12 lessons.

Dates: May 1967–Present.

Objective: To provide information on optimal use of risk management techniques which minimize the financial consequences of a casualty loss: risk avoidance, loss prevention, or reduction and risk transfer to noninsurance organizations.

Instruction: Describes when and to what extent each risk control technique should be employed, how each should be administered, and how each should be monitored for the control and coordination of the total risk management effort. This is done using guidelines for selecting risk management techniques.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration, Insurance, Management, or Risk Management (5/77).

Risk Financing (RM 56)

Length: 13 lessons.

Dates: December 1973–Present.

Objective: To complete the risk management decision-making process with respect to risk financing techniques, concentrating on the selection, implementation, and monitoring of the methods by which an organization can obtain funds to minimize the financial consequences of a casualty loss.

Instruction: Attention is directed primarily to risk retention and commercial insurance. The financial guidelines from Risk Management 54 are again applied to such topics as setting the amounts of self-insured retention, negotiating with admitted and nonadmitted insurers, and coordinating self-insurance with commercial insurance.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration, Insurance, Management, or Risk Management (5/77).

Structure of the Risk Management Process (RM 54)

Length: 13 lessons.

Dates: May 1967–Present.

Objective: To introduce exposure identification and evaluation into the risk management decision-making process and to lay the financial management foundation for choosing the best risk management alternative. This is done against the background of the objectives of a business organization and the principles of general management.

Instruction: Procedures for identifying and analyzing property, income, liability, and personnel loss exposures are detailed. General characteristics of the various risk control and risk financing techniques are explored. Also included are guidelines for selecting the most appropriate risk management techniques for each exposure. These guidelines demonstrate how proper risk management contributes to achieving the organization's overall profits and productivity.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration, Insurance, or Risk Management (5/77).

Underwriting Program

The course below is one of four parts in the Underwriting Program designed primarily for insurance company underwriters, field representatives, agency underwriters, account managers, and all persons who wish to develop a deeper understanding of the underwriting process. Though there is no mandatory prerequisite to the 13 week course, it proceeds on the assumption that the student has a working knowledge of insurance principles and coverages. The program's primary goal is to provide students with an opportunity to master and apply the underwriting decision-making process for all lines of insurance, personal and commercial.

Principles of Property and Liability Underwriting (UND 61)

Length: 13 lessons.

Dates: January 1977–Present.

Objective: To introduce students to underwriting decision-making on two levels: individual risk underwriting and the underwriting management of a company's entire operation.

Instruction: A discussion of the underwriting function, its nature, purpose, and organization is followed by an analysis of the underwriting decision-making process. Underwriting fundamentals from coverage analysis, loss control, reinsurance, and necessary numerical tools, financial analysis and pricing are also examined.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Insurance (5/77).

American Sterilizer Company (AMSCO)

The American Sterilizer Company (AMSCO) manufactures sterilizers for hospitals, laboratories, and hospital supply distributors. The company employs approximately 4,000 people throughout the North American continent. AMSCO also designs, manufactures, and distributes a broad range of equipment, instruments, and related supplies used primarily in hospitals.

The Education Department conducts resident training programs in management, sales, and service career fields for their employees at the Hall Memorial Education Center, which was established in September 1960. Educational seminars in the areas of central service, operating room, materials management, respiratory therapy, and hospital engineering are offered at the Educational Center, throughout the country, and abroad to hospital personnel. AMSCO's Customer Maintenance Training Programs were incorporated in 1977.

Source of official student records: Director of Service Training, American Sterilizer Company, 2424 West 23rd Street, Erie, Pennsylvania 16512.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

1. Amscar Service Training or Amscar Distribution Systems (CT/AT-7000)
2. Amscomatic Washer—Sterilization Training or Material Processing Systems (CT/AT-5000) (Engineering Technology Laboratory II)

Location: Erie, Pa.
Length: 1. 36 hours (4 1/2 days); residential.
2. 34 hours (4 1/2 days); residential.
Dates: 1. January 1977–Present.
2. February 1976–Present.
Objective: To provide the student with hands-on laboratory experience on advanced electro-mechanical health care equipment.
Instruction: This laboratory deals with exercises on the operation and maintenance of the Amscar and Amscomatic products.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Engineering Technology Laboratory (2/77). NOTE: One semester hour for each component, total of 2 semester hours.

Central Service Department Seminar

Location: Erie, PA; locations throughout the United States.
Length: 32 hours (4 1/2 days); residential.
Dates: June 1967–Present.
Objective: To present current concepts and practical procedures for improving efficiency and raising standards within the Central Service Department of a hospital, providing better patient care.
Instruction: Dynamic trends in hospital-associated infections; contamination control; chemical disinfection and concomitant problems; processing and distribution concepts; meeting patient care requirements; principles of steam sterilization; principles of gas sterilization; processing procedures; packaging requirements for hospital operation; electrical safety in hospitals; legal aspects of central service; how Occupational Safety and Health Act affects hospitals; high purity water and solution processing; budget determination and utilization; motivation and communication.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Health Sciences or Management (6/77). NOTE: One credit should be granted for either Central Service Department Seminar, Operating Room Service Seminar, or Combined Central Service and Operating Room Seminar, but not for all three courses.

Combined Central Service and Operating Room Seminar

Location: Erie, PA; locations throughout the United States and abroad.
Length: 38 hours (4 1/2 days); residential.
Dates: February 1976–Present.
Objective: To present current concepts and practical procedures for improving efficiency and raising standards within the Central Service departments and the operating room suites in a hospital.
Instruction: Contamination control; chemical disinfection and concomitant problems; principles of steam and gas sterilization; meeting patient care requirements; planning concepts-surgical suite; explosion and electrical safety; how the Occupational Safety and Health Act affects hospitals; material processing and utilization for the surgical suite; processing and distribution concepts for central service; processing procedures; packaging requirements high purity water and solution processing; legal aspects relating to hospital personnel; central service budget determination and utilization; surgical lighting concepts; surgical draping standards; establishment of a case cart system; orthopedic procedures; motivation and communication.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Health Sciences or Management (6/77). NOTE: One credit should be granted for either Combined Central Service and Operating Room Seminar, Central Service Seminar, or Operating Room Service Seminar, but not for all three courses.

Five-Week Basic Training Program (B-100/508) (Electro-Mechanical Principles of Health Care Equipment)

Location: Erie, PA.
Length: 180 hours (5 weeks); residential.
Dates: April 1975–Present.
Objective: To provide students with an introduction to the basic theory, operation, and maintenance of health care equipment.
Instruction: Basic concepts in electro-mechanical theory and techniques as they relate to health care equipment, with special emphasis on sterilization, refrigeration, ultrasonic cleaning, surgical tables, and surgical lighting. One fourth of the student's time is devoted to laboratory-oriented exercises.
Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Basic Engineering Technology (2/77).

Hospital Directors of Engineering Seminar (Hospital Engineering Seminar)

Location: Erie, PA; locations throughout the United States and Canada.
Length: 32 hours (4 1/2 days); residential.
Dates: June 1967–Present.
Objective: To present current concepts and practical applications for improving efficiency and raising the standards in the Engineering Department of a hospital.
Instruction: Plant management organization and criteria; medical device legislation and its implications; trends in

hospital associated infections; infection control; cost effectiveness in environmental sanitation; techniques of mechanical washing; explosion hazards and electrical safety; principles of steam and ethylene oxide gas sterilization; legal aspects of the hospital engineering department; water requirement; surgical equipment requirements; how the Occupational Safety and Health Act affects hospitals; communication and motivation.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Health Sciences, Biomedical Engineering, or Clinical Engineering (6/77).

Materials Management in Hospitals

Location: Erie, PA; locations throughout the United States.

Length: 38 hours (4 1/2 days); residential.

Dates: September 1976-President.

Objective: To present current concepts and practical application of materials management in hospitals.

Instruction: Administration and scope of responsibilities in materials management; qualifications of a materials manager; materials management organization; purchasing; cost benefits through effective inventory control; materials processing; laundry, pharmacy, dietary departments as elements of materials management; distribution; how Occupational Safety and Health Act affects materials management; legal aspects; motivation and communication.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Health Sciences or Management (6/77).

Operating Room Service Seminar

Location: Erie, PA; locations throughout the United States.

Length: 32 hours (4 1/2 days); residential.

Dates: June 1967-Present.

Objective: To present current concepts and practical procedures for improving efficiency and raising standards in the Operating Room Suite of a hospital.

Instruction: Hospital associated infections; contamination control; chemical disinfectants and concomitant problems; principles and methods of steam sterilization; principles of ethylene oxide gas sterilization; material processing and utilization; instrument processing; packaging requirements; planning concepts; explosion hazards and electrical safety; legal aspects; surgical lighting concepts; surgical draping standards; orthopedic procedures; motivation and communication.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Health Sciences or Management (6/77). NOTE: One credit should be granted for either Operating Room Service Seminar, Central Service Department Seminar, or Combined Central Service and Operating Room Seminar, but not for all three courses.

Specialist Class (AT/6000) (Engineering Technology Laboratory I)

Location: Erie, PA.

Length: 40 hours (5 days); residential.

Dates: January 1977-Present.

Objective: To provide the student with hands-on laboratory experience on advanced electro-mechanical health care equipment.

Instruction: This laboratory deals with exercises on the operation and the maintenance of industrial Gas Console; Lo-Boy; urology table; surgical lighting; Amscope and Chef Center.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Engineering Technology Laboratory (2/77).

1. Training Seminar for Hospital Corporation of America (CT/4000)
2. Customer Service I (CTI/1000) (Engineering Technology Laboratory III)

Location: Erie, PA.

Length: 1. 32 hours (4 days); residential.
2. 35 1/2 hours (4 1/2 days); residential.

Dates: 1. June 1973-Present.
2. January 1977-Present.

Objective: To provide the participant with hands-on laboratory experience on advanced electro-mechanical health care equipment.

Instruction: This laboratory deals with exercises on the operation and maintenance of Amsco sterilization equipment; ultrasonic cleaning equipment; biological indicators and instrumentation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Engineering Technology Laboratory (2/77). NOTE: One Semester hour may be granted for work completed in either Training Seminar for Hospital Corporation of America or Customer Service I, but not both.

Anaheim Savings and Loan Association

Anaheim Savings and Loan Association serves the growing financial needs of the southern California region. It offers savings, real estate lending, and residential development services in each of the major counties of southern California.

The management skills development program was implemented as a part of an effort to meet the continuing educa-

tional needs of current and potential supervisors and managers.

Source of official student records: Personnel Administrator, Anaheim Savings and Loan Association, P.O. Box 4941, Anaheim, California 92803.

Additional information about the course: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Management Skills Development Program

Location: Anaheim Savings and Loan Administrative offices, Anaheim, CA.

Length: 32 hours (8 weeks).

Dates: January 1978–Present.

Objective: To provide a general introduction to supervisory concepts with emphasis on personnel management.

Instruction: An introduction to supervisory skills, including: personnel selection, manager's functions and tools, managing people, developing employees, and leadership skills. The course is taught through lecture, discussion, and simulation.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (2/78). NOTE: To be eligible for credit the student must successfully complete optional project.

Art Instruction Schools

Art Instruction Schools is a wholly owned subsidiary of the Bureau of Engraving, Inc., a privately owned corporation. Located in Minneapolis, Minnesota, the school has offered art courses by correspondence since 1914.

Art Instruction Schools offers Fundamentals of Art and Specialized Art. Fundamentals of Art is a prerequisite for Specialized Art. For each lesson students must submit artwork that demonstrates proficiency in the techniques and concepts presented in the lesson. The assigned artwork evaluates only a portion of the material presented in the lesson, so students may, through independent work and practice, learn more than they are required to demonstrate in the assignments. For this reason, many of the credit recommendations are stated as ranges of credit. Institutions are urged to evaluate portfolios individually to determine the exact amount of credit to be awarded.

Students applying for college credit are required to take proctored, objective art examinations. In the Fundamentals of Art, an exam may be taken after Lessons 14 or 22 (at which time a student may apply for credit for the portion completed) or upon completion of the entire Fundamentals of Art Program. Similarly, in Specialized Art students may take an exam after Lesson 17 or upon completion of Specialized Art. They are also required, as part of the examination, to submit a portfolio which is evaluated by a faculty committee and is part of the final grade. Institutions should review the portfolio in determining the credit award.

These examinations were instituted in January 1978, but students who began the programs as early as August 1973 may take the art examination to have the credit recommendations apply to them. Successful completion of the examinations is indicated on the student's record.

Source of official student records: Director of Education, Art Instruction Schools, Inc., 500 South Fourth Street, Minneapolis, Minnesota 55415.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Fundamentals of Art

Part 1: (Basic Drawing and Design I)
Part 2: (Basic Drawing and Design II)
Part 3: (Figure Drawing and Studio Techniques)

Length: 27 lessons. (Typical student requires 2 years and over 1,000 hours to complete.) *Part 1:* Lessons 1–14; *Part 2:* Lessons 15–22; *Part 3:* Lessons 23–27.

Dates: January 1978–Present.

Objective: *Part 1:* To introduce students to drawing, design principles, and color concepts. *Part 2:* To enable students to use a variety of art media and techniques creatively. *Part 3:* To provide students with an understanding of human anatomy so as to draw the nude and draped figure.

Instruction: *Part 1:* Fundamental techniques of drawing to achieve accurate proportions, form, foreshortening, and textures; fundamentals of representational, abstract, and non-objective designs; application of color through planning, mixing, and use. *Part 2:* Drawing and rendering animals; perspective, including one-point to multiple-point and spacing, shadows, reflections, and plan projections; history and techniques of lettering, identification of lettering styles; lettering tools, pen and brush lettering, and creative lettering; still life art, including positive and negative shapes, sight-size drawing, lighting, backgrounds, enlarging and reducing; pictoral composition. *Part 3:* Figure drawing, including proportions, skeleton and muscles, action and expressions, foreshortening and distortion, head, hand and foot studies; drawing the draped figure—with an introduction to fashion illustration; studio techniques, including art studios, care and use of tools and materials, tricks of the trade, the airbrush, mounting photographs and artwork, matting, and preparation of keylines (mechanicals or paste-ups).

Credit recommendation: In the lower division baccalaureate/associate degree category, 4–6 semester hours in Art Education or Studio Art for each part, for a total of 12–18 semester hours (1/78).

Specialized Art

Part 1: (Design, Composition, and Reproduction)
Part 2: (Painting Techniques)
Part 3: (Cartooning)
Part 4: (Art in Advertising)
Part 5: (Advanced Drawing and Painting)
Part 6: (Advanced Illustration)

Length: 27 lessons. (Typical student requires 2 years and over 1400 hours to complete.) *Part 1:* Lessons 1-6; *Part 2:* Lessons 7-9; *Part 3:* Lessons 10-12; *Part 4:* Lessons 13-17; *Part 5:* Lessons 18-20; *Part 6:* Lessons 21-27.

Dates: January 1978-Present.

Objective: *Part 1:* To provide an understanding of advanced problems in design, reproduction, and compostion. *Part 2:* To provide an understanding of various painting techniques and media. *Part 3:* To provide an understanding of cartooning as a creative and expressive art, including the history of cartooning styles and techniques. *Part 4:* To provide an understanding of the functions and responsibilities of an art director and an advertising agency; to provide an awareness of the creative process for an advertisment by analyzing client's needs, researching, and choosing visuals, layout tools and techniques; to develop an understanding of cartoons as part of the advertising message and to experiment with the styles and techniques involved in preparing advertising cartoons. *Part 5:* To enable students to select subjects, compose, use perspective, and apply color theory to drawing from nature and painting portraits. *Part 6:* To familiarize students with the tools and techniques used by professional illustrators; provide students with an understanding of the problems of creating artwork for book, fashion, editorial and advertising illustrations.

Instruction: *Part 1:* Commercial printing processes (letterpress and offset lithography), reproduction of art screens, applying tone to line art, color reproduction, silk screening; advanced design problems, processes, techniques, and commercial applications; advanced study of composition, underlying picture patterns, rendering styles, analysis of shapes, values, and color in picture arranging. *Part 2:* Value and color problems in transparent and opaque media; their application to fine art and advertising art. *Part 3:* Study of cartooning using ink, acrylics, Zip-A-Tone shading sheets, colored papers, felt cloth and other mediums on illustration boards, texture sheets, acetate and other surfaces doing dry brush renderings, creating collages and using other techniques. *Part 4:* Construction of an advertising campaign; service and institutional advertisements; psychology of advertising; functions and responsibilities of the art director; functions of the advertising agency; tools and techniques used in advertising art studios and agencies. *Part 5:* Composition as it relates to landscape space, aerial perspective, drawing and painting portraits, review of head anatomy and form; placement, background considerations, color mixing, and painting methods. *Part 6:* Developing illustrating skills and advanced rendering techniques for book, fashion, editorial and advertising illustrations.

Credit recommendation: *Part 1:* In the upper division baccalaureate category, 4-6 semester hours in Art Education or Studio Art (1/78). *Part 2:* In the upper division baccalaureate category, 2 semester hours in Art Education or Studio Art (1/78). *Part 3:* In the upper division baccalaureate category, 2 semester hours in Art Education or Studio Art (1/78). *Part 4:* In the upper division baccalaureate category, 4-6 semester hours in Art Education or Studio Art (1/78). *Part 5:* In the upper division baccalaureate category, 2 semester hours in Art Education or Studio Art (1/78). *Part 6:* In the upper division baccalaureate category, 6-10 semester hours in Art Education or Studio Art (1/78). Total credit of 20-28 semester hours (1/78).

The Atlantic Richfield Company

Atlantic Richfield, a diversified natural resources company, provides the nation with a variety of petroleum, mineral, and chemical products. The company is active in all phases of the petroleum energy business, and also manufactures and markets petrochemicals. Its other business interests include coal, copper, aluminum, uranium oxide, and a wide range of metal products. The diverse operations of Atlantic Richfield are its subsidiaries, concentrated principally in the United States.

Atlantic Richfield offers courses to its employees to help accelerate their professional and managerial career development. Some courses are single offerings; others are part of an integrated program of study.

Source of official student records: Manager of Training and Development, Atlantic Richfield Company, Employee Relations Division, 515 South Flower Street, Los Angeles, California 90071.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Fundamentals of Supervision: Phase I

Location: Los Angeles, CA; Dallas, TX; Philadelphia, PA; Denver, CO.

Length: 40 hours (5 days).

Dates: December 1977-Present.

Objective: To improve interpersonal communication skills of first-line supervisiors.

Instruction: A basic course in interpersonal relations for supervisors. Communications, assertion training, counseling and negotiating skills are developed through the use of audio-visual aids, discussions, and extensive experiential learning.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications or Management (5/78).

Baltimore Police Department

The Baltimore Police Department serves a population of approximately 900,000 residents and employs 3,500 officers. The Police Department Education and Training Division conducts entrance level training and specialized courses for newly promoted and reassigned officers.

In addition, faculty members of the Community College of Baltimore are assigned to the Education and Training Division to teach Sociology, Psychology, and Introduction to Criminal Justice in the entrance level program. These courses are regular offerings of the Community College of Baltimore and appear on a transcript of that institution.

Source of official student records: Director, Education and Training Division, Baltimore City Police Department, Fayette and Fallsway, Baltimore, Maryland 21202.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Entrance Level Training Program

An officer must complete satisfactorily a 20-week entrance level training program before he gains probationary status. This program is conducted both in the classroom and in the field. The 20-week program has been offered since January 1, 1976. Prior to this date, the entrance level program was of 18 weeks duration. The following courses are part of the Entrance Level Training.

Field Operations Patrol (Patrol Operations)

Location: Baltimore Police Department; Baltimore, MD.
Length: 69 hours (8 weeks).
Dates: September 1974–Present.
Objective: To provide an introduction to the methods and procedures of police patrol operations.
Instruction: An examination of police patrol duties and responsibilities including response to crimes in progress, tactics related to specific types of calls for services, unusual occurences, and strategies for routine activities of the patrol function. Methods used include lecture, discussion, and situational exercises.
Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Criminal Justice or Law Enforcement (5/76).

First Aid

Location: Baltimore Police Department; Baltimore, MD.
Length: 40 hours (11 weeks);
Dates: November 1975–Present.
Objective: To enable students to provide initial emergency care.
Instruction: An advanced Red Cross course covering theory and practice of First Aid procedures for shock, wounds, cardio-pulmonary resuscitation, sudden illiness, emergency childbirth.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Physical Education (5/76).

1. Substantive Law
2. Criminal Procedure

Location: Baltimore Police Department; Baltimore, MD.
Length: 1. 30 hours (6 weeks).
2. 35 hours (7 weeks).
Dates: 1. September 1975–Present.
2. September 1974–Present.
Objective: To introduce fundamental concepts and issues of criminal law and procedures with emphasis on Maryland State Law.
Instruction: Arrest, search and seizure, and rules of evidence with specific emphasis on serious crimes; search warrants and other elements of criminal procedure; court testimony; constitutional law as related to admissions and confessions. Lecture, discussions, and situational problem solving are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Law (5/76).

Traffic Law Enforcement

Location: Baltimore Police Department; Baltimore, MD.
Length: 54 hours (16 hours over 8 weeks; 38 hours over 1 week.
Dates: January 1976–Present
Objective: To provide instruction in the fundamental elements of traffic enforcement, traffic procedures, and Maryland Motor Vehicle Law.
Instruction: An examination of the patrol traffic function as related to enforcement, violations and arrest procedures, accident investigation, traffic court procedure, and the Maryland Motor Vehicle Laws. Practical field exercises are included for each area of study.
Credit recommendation: in the lower division baccalaureate/associate degree category, 2 semester hours in Criminal Justice or Law Enforcement (5/76).

Specialized Training

The following courses are designed to prepare police officers to assume new responsibilities. The "Court Sanctioned Limited Adjustment Training Program" is conducted for newly appointed youth service officers, the "Mandated Administrators Program" for newly appointed lieutenants, and the "Mandated Supervisory Training Program" for newly appointed sergeants.

Court Sanctioned Limited Adjustment Training Program (Delinquency and the Police Role)

Location: Baltimore Police Department; Baltimore, MD.
Length: 80 hours (2 weeks).
Dates: April 1976–Present.
Objective: To provide an understanding of the police role relating to juvenile offenders.
Instruction: The program is designed to promote an understanding of the juvenile justice process with major focus on counseling, interviewing, and handling juvenile offenders. Gives special emphasis to court sanctioned limited adjustment training programs for youthful offenders.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Juvenile Justice or Law Enforcement (5/76).

Mandated Administrators Program

Location: Baltimore Police Department; Baltimore, MD.
Length: 70 hours (2 weeks).
Dates: June 1972–Present.
Objective: To provide the student with a theoretical and practical knowledge of police administration, organization, and management.
Instruction: Planning; decision making; problem solving; communications; budget; staff functions; personnel management; self development. The course is intended as a preparation for problem solving at the mid-management level.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management or Police Supervision (5/76). NOTE: The coverage of this course overlaps to a large extent with the Mandated Supervisory Training Program. Credit should not be granted for both courses.

Mandated Supervisory Training Program

Location: Baltimore Police Department; Baltimore, MD.
Length: 40 hours (1 week).
Dates: March 1971–Present.
Objective: To provide instruction in the fundamental concepts of supervision within a police organization.
Instruction: Covers the supervisor's role in management areas, including supervisory process and responsibilities, leadership, motivation, morale, discipline, ethics, decision making, measuring work performance, and effective use of resources.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management or Police Supervision (5/76). NOTE: The coverage of this course overlaps to a large extent with the Mandated Administrators Program. Credit should not be granted for both courses.

Bank of America

Bank of America's Training Department offers numerous courses in banking skills, management, educational development, and special subjects to all employees in the bank's system of administrative departments and community offices throughout California, as well as within the Bank's World structure.

Instructors are experienced bank officers trained in educational techniques, who later follow a career path back into their banking speciality. Courses are conducted at Training's headquarters either in San Francisco or Los Angeles, or instructors travel to regional offices throughout the state.

Source of official student records: Educational Assistance #3636, Training Department, World Headquarters, Box 37000, San Francisco, California 94137.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Business English

Location: San Francisco, CA.
Length: 70 hours (7 weeks); two-hour sessions daily.
Dates: August 1975–Present.
Objective: To improve the students' English skills and to enable them to correct or compose business letters and memos.
Instruction: Covers grammatical structure, punctuation, spelling and vocabulary, word division, paragraphing, abbreviations, and sentence structure. Methodology includes lecture, discussion, and self-paced instruction.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Communications (2/76).

Financial Statement Analysis

Location: Los Angeles and San Francisco, CA., also Regional Headquarters.

Length: 40 hours (1 week); residential; 20 hours of outside preparation required.

Dates: February 1966–Present.

Objective: To develop the student's fundamental knowledge of credit analysis from the perspective of a loan officer.

Instruction: Covers principles and policies involved in the appraisal of credit risks through analysis of accounting statements of financial condition; concepts and characteristics of financial statements; tools of financial statement analysis, including ratio analysis, liquidity analysis, and earnings analysis, and tests normally applied in appraising the financial statements of various industries as a basis for credit. Methodology includes lecture, discussion, and case analyses. (Prerequisite: Principles of Accounting or equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Accounting and 2 semester hours in Banking or Finance (2/76).

Principles of Accounting

Location: Los Angeles and San Francisco, CA., also Regional Headquarters.

Length: 32 hours (8 weeks); 8 hours per day, one day every other week; approximately 26 hours outside preparation required (SAN FRANCISCO). 30 hours (12 weeks); 5 hours per day, one day every other week; approximately 26 hours outside preparation required (LOS ANGELES).

Dates: February 1966–Present.

Objective: To provide the student with a basic understanding of accounting terminology, concepts, and practices, especially in reference to basic financial documents of business; and to prepare the new lending officer for subsequent instruction in financial statement analysis.

Instruction: Covers fundamentals of accounting theory and practice substantially similar to that of all common principles of accounting texts (except for taxes and statements analysis). Methodology includes lecture, discussion, and case studies.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Accounting (2/76).

Typing II

Location: San Francisco, CA.

Length: 70 hours (7 weeks); two-hour sessions daily.

Dates: June 1974–Present.

Objective: To increase student's typing ability from 35 net words to approximately 55–60 net words per minute using touch typing.

Instruction: Covers error reduction, accurate proofreading, tabulation, appropriate letter format, and speed development. Methodology includes lecture and laboratory. (Prerequisite: Typing I or typing speed of 35 net words per minute.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Typing (2/76).

Bell of Pennsylvania and Diamond State Telephone

Bell of Pennsylvania and Diamond State Telephone are public utilties that provide a wide range of telecommunications services in Pennsylvania and Delaware. They are associated companies within the Bell Telephone System and employ approximately 32,000 people.

Bell of Pennsylvania and Diamond State Telephone offer educational and developmental opportunities to their employees which include technical craft, engineering, electronic data processing, marketing, and management development training courses. Tuition aid and outside courses supplement in-house training and development programs.

Training for management personnel is administered by four departmental training organizations which operate their own training centers and function as the source of official student records.

EDP Training Program

The EDP (Electronic Data Processing) Training Program trains employees involved in data systems work and provides education in many disciplines concerned with the development of computer-based data systems. The courses offered range from basic programmer training to operating systems and system analyst training.

Source of official student records: Accounting Supervisor—Training, Bell of Pennsylvania, 13th Floor, One Parkway, Philadelphia, Pennsylvania 19102.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Programmer Basic Training—COBOL

Location: Philadelphia, PA.

Length: 473 hours (13 weeks).

Dates: February 1977–Present.

Objective: To introduce students with no programming experience to the physical structure and major concepts of

a computer; to develop skills in designing and implementing structured COBOL programs and required documentation; to prepare students to create and modify JCL to execute programs and procedures.

Instruction: Data processing concepts; data representation; structured programming, design, implementation and case problems; COBOL; JCL; utilities; cataloged procedures. The COBOL unit of the course emphasizes understanding diagnostic messages, making appropriate corrections to COBOL code, debugging, modularity, the SORT verb, and modular debugging. Students are required to take written tests and execute case studies. Lecture, discussion, workshop, and independent study are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 6 semester hours in Computer Sciences, Engineering, Information Sciences, or Technology (8/78).

Engineering Training Program

The Engineering Training Program conducts technical courses for managers in Pennsylvania, Delaware, and neighboring states. Students in Applied Transmission Training—Module B come to the Center from all 48 contiguous states.

Source of official student records: Director—Engineering Training Center, Bell of Pennsylvania, 600 Chestnut Street, Room 714, Philadelphia, Pennsylvania 19106.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Combined Outside Plant Engineering

Location: Philadelphia, PA.
Length: 240 hours (4 weeks).
Dates: September 1975–Present.
Objective: To introduce mechanized programs and concepts necessary for outside plant design.
Instruction: Personal work scheduling; distribution relief and extension; feeder relief and extension; organization and use of various records; cover input; output; analysis and principles of remote data entry; mechanized cost analysis; transmission design concepts. Students prepare an outside plant plan (long range) and a five-year construction program (short range). Case studies, lecture, discussion, and laboratory are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Industrial Engineering or Technical Management (8/78). NOTE: Credit should be granted as an elective.

Engineering Economy

Location: Philadelphia, PA.
Length: 66 hours (2 weeks).
Dates: January 1970–Present.
Objective: To provide the information necessary to perform a complete engineering economy study.
Instruction: Accounting; mathematics and money; study techniques; depreciation; division of revenue; inflation; accelerated depreciation; investment tax credit. Lecture, workshop, and laboratory are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (8/78). NOTE: Credit should be granted as an elective.

Equipment Engineering Management

Location: Philadelphia, PA.
Length: 110 hours (3 weeks).
Dates: September 1973–Present.
Objective: To develop the expertise to perform equipment engineering tasks.
Instruction: Forecasting; long-range planning; current planning; space planning; power planning; construction budget; accounting; equipment requests; cost estimating; authorization; estimate analysis; job billing and status; job closure and completion; job coordination; job inspection; closing project. Lecture, workshop, and laboratory are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Civil Technology or Mechanical Technology (8/78).

General Engineering (Concepts in Engineering for Non-Technical Majors)

Location: Philadelphia, PA.
Length: 66 hours (2 weeks).
Dates: January 1970–Present.
Objective: To expose the non-technical student to the functions of engineering including responsibilities, problems, and terminology.
Instruction: Surveys basic switching, traffic engineering, transmission concepts, business information systems, construction programs, development engineering, effective writing, engineering economics, probability, rate engineering, sound, speech and hearing, special networks, special services, switching networks, and time-shared computers. Lecture, discussion, and laboratory are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in a non-technical curriculum (8/78).

Instructor Training (Methodology)

Location: Philadelphia, PA.
Length: 25 hours (4 days).
Dates: September 1970–Present.
Objective: To prepare teachers to use a variety of instructional techniques to enhance the teaching/learning processes.
Instruction: Surveys learning theory, instructional methodology, writing learning objectives, and the use of visual aids. Group discussions and simulations are used.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Education (8/78).

Non Urban Outside Plant Facilities Engineering

Location: Philadelphia, PA.
Length: 119 hours (2 weeks).
Dates: June 1977–Present.
Objective: To introduce loop electronic planning, design, and implementation for the nonurban outside plant environment.
Instruction: Covers the use of permanent economic guideline curves as a coarse screen economic tool, Voice Frequency Range Extenders, Distributed Pair Gain subscriber carrier systems, Lumped Pair Gain subscriber systems, computer planning tools, subscriber carrier pair splicing, repeater spacing, and powering schematics. Students also receive instruction in interdepartmental coordination responsibilities for loop electronics implementation. Lecture, discussion, workshop, and laboratory are used. (Prerequisite: Combined Outside Plant Engineering).
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Industrial Engineering or Technical Management (8/78). NOTE: Credit should be granted as an elective.

Traffic Engineering

Location: Philadelphia, PA.
Length: 68 hours (2 weeks).
Dates: January 1970–Present.
Objective: To provide the fundamental concepts of telecommunications traffic engineering.
Instruction: Basic traffic theory; basic data-traffic characteristics; data measurement; trunk administration and estimating; load-service relationships; service results and analysis; network management; relief programming; switching engineering. Lecture and laboratory are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (8/78). NOTE: Credit should be granted as an elective.

Transmission Engineering—Module A

Location: Philadelphia, PA.
Length: 78 hours (2 weeks).
Dates: September 1972–Present.
Objective: To provide the appropriate foundation to pursue advanced transmission concepts and systems.
Instruction: Covers basic math, basic transmission, and basic electrical principles.
Credit recommendation: In the vocational certificate category, 3 semester hours in Electrical Technology (8/78).

Transmission Engineering—Module B

Location: Philadelphia, PA.
Length: 123 hours (3 weeks).
Dates: January 1972–Present.
Objective: To provide the fundamental concepts of telecommunications transmission.
Instruction: Passive devices; signal analysis; AM, FM, and pulse modulation; microwave analysis; network management; basics of voice frequency. Lecture, demonstrations, laboratory, and case work are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Electrical Technology (8/78). NOTE: Credit should be granted as an elective.

Management Development Program

The mission the the Management Development Training Program is to promote the growth of management personnel in supervisory, managerial, and interpersonal skills. The courses offered by the Center serve a dual purpose: to help managers acquire the knowledge and skills to perform their current jobs, and to prepare them for future assignments.

Classes are held on an interdepartmental basis because the skills addressed can be used by all managers regardless of their departmental function.

Source of official student records. Personnel Supervisor—Training Administration, Bell of Pennsylvania, [illegible] Chestnut Street, 3rd Floor, Philadelphia, Pennsylvania 19102.

Additional information about the courses. Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Communications Workshop (141)

Location: Harrisburg, Philadelphia, Pittsburgh, PA.
Length: 32 hours (1 week).
Dates: January 1970–Present.
Objective: To improve ability to communicate ideas and to increase understanding of others.

Instruction: Surveys listening, experiential learning, group development analysis, distributive leadership and decision making cases. Group discussions, lectures, and simulations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (8/78).

Initial Management Training (113)

Location: Harrisburg, Philadelphia, Pittsburgh, PA.
Length: 32 hours (1 week).
Dates: January 1969–Present.
Objective: To identify the functions of management, their applications, and the relationship of managerial behavior to the work situation.
Instruction: Surveys the initial management principles, behavior, work situation, basic communcations and role playing. Group discussion, lectures, and simulations are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (8/78).

Initial Supervisory Training (114)

Location: Harrisburg, Philadelphia, Pittsburgh, PA.
Length: 32 hours (1 week).
Dates: January 1969–Present.
Objective: To identify attitudes and behavior appropriate to a supervisor's position and to enhance the supervisor's relationship with others.
Instruction: Surveys decision making processes, motivation, behavior and attitudes, management by objectives and interrelations. Group discussion, lectures, and simulations are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (8/78).

Management Relationships Training (105) (Transactional Analysis)

Location: Harrisburg, Philadelphia, Pittsburgh, PA.
Length: 26 hours (4 days).
Dates: January 1975–Present.
Objective: To recognize major sources of behavior for particular situations and to demonstrate skills in conducting productive communications and promoting mutual understanding.
Instruction: Surveys ego states, diagramming, ulterior transactions, stroking patterns, psychological positions, games and time structuring. Group discussion, lectures, and simulations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (8/78).

Marketing Learning and Evaluation Program

The Marketing Learning and Evaluation Program has two functions: training and assessment.

The Center provides training for sales contact personnel in selling skills and Bell System telecommunications products and services. The objective is to prepare the trainees to sell effectively in a competitive, consumer-oriented environment.

The assessment program attempts to identify a prospective employee's interest and ability to do sales/service work and to predict whether the candidate's on-the-job performance will support the cost of employment and training.

Source of official student records: Marketing Supervisor—Training, Bell of Pennsylvania, 3624 Market Street, 2nd Floor, Philadelphia, Pennsylvania 19104.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Account Executive

Location: Philadelphia, PA.
Length: 316 1/2 hours (9 1/2 weeks).
Dates: May 1978–Present.
Objective; To train personnel in financial analysis and other selling skills.
Instruction: System sales planning and strategies; financial analysis and cost justification. Lecture, hands-on training, and role playing are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Marketing (8/78).

Market Administrator—Data

Location: Philadelphia, PA.
Length: 252 hours (7 weeks).
Dates: February 1978–Present.
Objective: To provide knowledge of various computer systems, the transmission of this data, and applicable sales techniques.
Instruction: Basic computer concepts; hardware; software; data transmission techniques. Lecture, hands-on training, and role playing are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Computer and Information Sciences (8/78).

Market Administrator—Voice

Location: Philadelphia, PA.
Length: 297 hours (9 weeks).
Dates: January 1968–Present.
Objective: To introduce basic marketing techniques and develop selling skills.
Instruction: Principles of business; management and economics; pricing; tariffs; credit; marketing organization; servicing; selling skills; preparing proposals. Lecture, role playing, and program text are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Marketing (8/78).

Blue Cross of Northern California

Blue Cross of Northern California is a non-profit health insurance organization. Since its inception over 40 years ago, the Plan has grown to meet the health protection needs of 2 million members residing in over 45 counties between Fresno and the Oregon border. In addition, the Plan provides administrative services for 1 1/2 million Northern Californians who are recipients of Medicare and Medi-Cal programs. The organization is part of a nationwide Blue Cross system composed of 70 Plans serving over 100 million Americans.

The Corporate Training & Development Department helps the organization to achieve its mission by identifying specific training needs and developing programs to meet them. Training is offered in management development and in all major areas of the health insurance business, from claims processing to customer service.

Source of official student records: Training Services Coordinator, Corporate Training & Development Department, Blue Cross of Northern California, 1950 Franklin Street, Oakland, California 94611.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Advanced Text Management System Operative Training (ATMS)

Location: Blue Cross Main Oakland Office and district offices in San Jose, Fresno, Sacramento, and San Francisco, CA.
Length: 60 hours (20 days).
Dates: November 1976–Present.
Objective: To provide a functional understanding of the principles of computerized text processing and to develop the corresponding skills to use these principles with the ATMS system.
Instruction: The methods and techniques of entering, editing, and printing of text using a computerized word processing system. An on-line, self-teaching system is used in addition to individualized clarification, assistance, progress checking by the instructor, and exit performance appraisal.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Secretarial Administration or Data Processing (8/77).

Business Communications Program

Location: Blue Cross Main Oakland Office and district offices in San Jose, San Francisco, and Fresno, CA.
Length: Version 1: 27 hours (2 weeks).
Version 2: 30 hours (over 8-week period).
Dates: August 1977–Present.
Objective: To provide the student with an understanding of basic interpersonal communication theory and to develop application skills in written and oral communications.
Instruction: Principles and applications of effective oral communication, including transactional analysis techniques, active listening, and related skills; development of skills in report and letter writing. Lecture, role play with videotape feedback, and written assignments are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (8/77). NOTE: To qualify for credit for either version, student must successfully complete an optional comprehensive evaluation.

Management and Organizational Behavior

Location: Blue Cross Main Oakland Office
Length: 48 hours (8 weeks).
Dates: August 1977–Present.
Objective: To acquaint students with basic management principles, including time management, performance standards, delegation, conflict resolution, on-the-job training, motivation, and effective communication.
Instruction: Behavioral management in regard to development of organizations and their operation; study of organizational groups and teams; managerial leadership; and related problems. This course is recommended as equivalent to the first course in basic management at the upper division level. Methodology includes lecture, seminar-discussion, simulation exercises, role playing, case studies, and on-the-job applications.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Public Administration (8/77). NOTE: To qualify for credit, student must successfully complete the optional comprehensive examination.

MBO Techniques as Applied to Job Definition, Appraisal, and Interviewing
1. Management by Objectives
2. Interviewing

Location: Blue Cross Main Office and district offices in San Jose, San Francisco, Sacramento, and Fresno, CA.

Length: 24 hours (over 4-week period).

Dates: August 1977-Present.

Objective: To expose students to fundamental concepts of management by objective techniques and their application to various problems, specifically, problems related to development of job description and performance appraisal, and to the interviewing and selection process.

Instruction: Application of management by objective techniques to work, planning, and review, including negotiation of target statements, measures, employee appraisal, and interviewing. With respect to the latter, special consideration is given to legal aspects of interviewing, the communication process, ways of structuring interviews, and pitfalls to be avoided. Methodology includes lecture, discussion, and role playing. In addition, in the case of the MBO course, formal written exercises and on-the-job completion of exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Public Administration (8/77). NOTE: To qualify for credit, student must successfully complete both courses, including the optional project of the MBO course.

Medical Terminology

Location: Blue Cross Main Oakland Office and district offices in San Jose, Fresno, Sacramento, San Francisco, CA.

Length: 46 1/2 hours (14 days).

Dates: November 1973-Present.

Objective: To provide students with the ability to recognize and define word roots, prefixes, suffixes, and related disease and operative terms, as well as laboratory and x-ray procedures through the study of body systems.

Instruction: An introduction to medical language, anatomy and physiology, laboratory and x-ray terms; diseases and operative procedures. This course specifically prepares the student to understand and process insurance claims. Methodology includes self-paced instruction with tutorial guidance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Allied Health or Health Science (8/77).

Medical Terminology/ICDA Coding

Location: Blue Cross Main Oakland Office and district offices in Fresno, San Jose, Sacramento, and San Francisco, CA.

Length: 64 hours (19 days).

Dates: November 1973-Present.

Objective: Same as objective of Medical Terminology course, as well as to provide students with the ability to use ICDA coding system.

Instruction: Same as instruction for Medical Terminology course, as well as coding of conditions or procedures using the ICDA code and selecting the primary diagnosis on insurance claims. Methodology is the same as in the Medical Terminology course.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Allied Health or Health Science (8/77).

Using Computers for Managing

Location: Oakland Main Office and district offices in San Jose, Fresno, Sacramento, and San Francisco, CA.

Length: 33 1/2 hours (4 1/2 days).

Dates: April 1974-Present.

Objective: To provide a basic understanding of the principles of computer systems and their use in business management.

Instruction: An analysis of the principles of computer systems and the development and use of Information Management Systems. Methodology includes lectures supplemented by instructional material in the forms of videotape, audio cassettes, notebooks, and textbooks.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or 1 semester hour in Data Processing (8/77). NOTE: In order to qualify for credit, the student must successfully complete the optional examination and assigned project.

Boy Scouts of America

The Boy Scouts of America conducts scouting programs to promote individual character development, citizenship, and mental and physical fitness. Since its incorporation in 1910, over 60 million youths have been members.

The Professional Development Program is designed to provide development opportunities for scouting professionals. This program is composed of educational offerings which include conferences, seminars, workshops, correspondence courses, work-study, and classroom instruction conducted at the Schiff Scout Reservation in Mendham, New Jersey (the National education center of the Boy Scouts of America) and at regional centers.

Source of official student records: Director of Professional Training, Schiff Scout Reservation, Mendham, New Jersey 07945.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Educational Field Laboratory (Skill Development for Working with Low-Income People)

Location: Mendham, NJ; regional locations.

Length: *Version 1:* 210 hours (23 days); residential.
Version 2: 130 hours (15 days); residential with additional pre-course work.

Dates: *Version 1:* July 1973–July 1974.
Version 2: July 1974–Present.

Objective: To relate the aims and concepts of the Boy Scouts of America (BSA) and other youth-serving agencies to community needs for the purpose of positive social action; to analyze the needs of a low-income community and to determine what resources are available to serve it.

Instruction: *Versions 1 and 2:* The course takes a systems approach to program development, problem-solving techniques, and directed field analysis of community problems. Topics include force field analysis, inter-group communication, value systems, indigenous community characteristics, the governmental process, life styles, research methods, and action planning. The specific emphasis of each course varies according to the ethnic or racial make-up of the area in which the course is given; for example, the course given in New York City focuses on the Black and Puerto Rican communities. Field visits, lectures, discussion, problem solving, case histories, and simulation are used. *Version 2:* Historical concepts and procedures of BSA and unit management by readings and programmed materials are pre-course work in this version, whereas they are part of residence instruction in *Version 1.*

Credit recommendation: *Versions 1 and 2:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Recreation, Social Work, Sociology, or Urban Education and Community Affairs (7/75).

Fund Raising and Finance Management (S-6) (Formerly Sound Financing [S-6])

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 36 hours (5 days); residential; 6–8 hours pre-course work.

Dates: January 1975–Present.

Objective: To provide managers with techniques for securing and managing financial resources.

Instruction: Procedures and techniques in fund raising as well as effective financial management. Topics include budget building and controls, fund raising techniques (including social events, gifts, captial campaign, foundation requests, trust funds, United Way, and local government funding), and utilization of committee member and volunteer resources. Lectures, group discussion, role playing, conference, assigned reading, oral and written reports are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration, Education, Management, or Recreation (6/75).

1. Fundamentals of Management (M-1)
2. Management in Action (M-2)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 1. 35 hours (5 days); residential.
2. 35 hours (5 days); residential.

Dates: January 1974–Present.

Objective: To provide an understanding of management principles and to develop the skills of Management by Objectives (MBO).

Instruction: In both courses topics include definition, the manger and his work, advantages and disadvantages of MBO, force field analysis, and personnel practices. Management in Action (M-2) is a problem-solving workshop based on principles and techniques developed in Fundamentals of Management (M-1). It also includes materials in performance analysis and managerial grids. Lectures, guest lectures, group discussions, audio-visuals, case studies, role plays, simulations, and assigned readings are used. (Prerequisites: National Executive Institute I, II, III)

Credit recommendation: *Course 1:* In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or General Management (6/75). *Courses 1 and 2:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Administration or General Management (6/75).

Human Relations Conference (S-14) (Human Relations Workshop)

Location: Mendham NJ; Atlanta, GA; Oak Brook, IL; Kansas City, Mo; Dallas, TX; Sunnyvale, CA.

Length: 35 hours (5 days); residential; 6–8 hours of pre-course work.

Dates: January 1974–Present.

Objective: To enable participants to work more adeptly with others by utilizing recognized techniques of group dynamics.

Instruction: Self analysis; communications; counseling; feedback; decision making; power structure; relationships between professionals and volunteers. Lectures, discussion, simulations, oral and written reports, and assigned readings are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Behavioral Science, Education, Human Relations, Recreation, or Urban Education and Community Affairs (6/75).

National Camping School—Aquatics (S 3-3) (Managing Camp Aquatics Programs)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974-Present.

Objective: To develop leadership skills in conducting aquatic programs and to learn how to provide a safe aquatic environment by utilizing the resources of a trained staff and camp facilities.

Instruction: Instructional swimming; recreational swimming; rowing; canoeing. Lectures and visuals are used, as well as demonstration and practice in swimming and boating and in maintenance of equipment and facilities.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Camping and Outdoor Education or Physical Education (7/75).

1. National Camping School—Camp Program (S 3-2) (Program Management in Camps)
2. National Camping School—Camp Management (S 3-1)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; and Sunnyvale, CA.

Length: 1. 45 hours (1 week); residential, 6-8 hours precourse work.
2. 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: 1. January 1974-Present.
2. January 1974-Present.

Objective: *Course 1:* To define and understand the role of the program director in camps; to enable participant to organize, supervise, and conduct youth activity programs. *Course 2:* To develop the skills and techniques necessary for managing and directing residential camping services.

Instruction: *Course 1:* Sports programs; aquatics; safety; outpost camping; hiking; camp craft skills; special programs; special events; evaluation techniques. Demonstrations, discussion, individual and group projects are used. *Course 2:* Business management and budgeting; program development and direction; managing a health and safety program; commissary management; staff management. Lecture, discussion, workshops, demonstrations, and individual projects are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Camping and Outdoor Education or Recreation (7/75). NOTE: If Course 1 or 2 is taken separately, 2 semester hours.

National Camping School—Chaplains (S 3-6)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974-Present.

Objective: To enable candidates or representatives of religious communities to provide spiritual help and guidance to young people in a camp setting.

Instruction: The course covers techniques of interpersonal relationships, guidance, and counseling needed by chaplains in assisting youth growth and development. Demonstrations, discussions, simulations, role playing, and recommended readings are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Education, Human Relations, or Religion (7/75).

National Camping School—Ecology Conservation (S 3-5) (Camp Leadership in Ecology-Conservation)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974-Present.

Objective: To prepare the student to develop camp programs and activities in ecology and conservation which will foster among young people an understanding of their interdependence with the environment.

Instruction: Weather; soil and water; forestry; camp conservation; fisheries; wildlife; geology. Lecture, discussion, demonstration, workshop and laboratory exercises, independent project development, and group projects are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biology, Conservation, Geography, Recreation, or Science (7/75).

National Executive Institute

The National Executive Institute (NEI) is a required 3-year program for all new Scout professionals. It combines on-the-job training oriented to individual needs with a three-phase residence program.

The course work for NEI I is taken after two to four months of on-the-job orientation. The remainder of NEI I is a one-year on-the-job training period. Using an "Action Plan" developed during NEI I, the staff leader and the new professional develop a series of projects and a self study. At the end of this one-year program, and prior to NEI II, a "Development Needs Analysis" is submitted to NEI.

NEI II is a one-week course conducted regionally, followed by another one-year on-the-job training period. At the conclusion of this year, the participant attends NEI III, a one week course also regionally conducted.

In all three parts, methodologies include lectures, guest lectures, small group discussions, simulations, role playing, field trips, audio-visuals, individual evaluation conferences, assigned readings, oral and written reports.

The credit recommendations reported below were established for the residential course work plus the intervening training period.

National Executive Institute I

Part 1: (Community Agency Leadership)
Part 2: (Program and Personnel Development)
Part 3: (Organizational Patterns; Managerial Services of the Boy Scouts of America)

Location: Schiff Scout Reservation, Mendham, NJ.

Length: 152 hours (24 days); residential. *Part 1:* 47 hours; *Part 2:* 55 hours; *Part 3:* 52 hours.

Dates: January 1974–Present.

Objective: To provide new Scout executives with an understanding of management and human relations skills and of organizational designs as they relate to Boy Scouts of America's purposes and programs.

Instruction: *Part 1:* Development of individualized skills to enhance articulation with community agencies; self and job analysis as they relate to performance objectives; establishment of short- and long-range professional goals; techniques of individual time management and work scheduling; tools of communications. *Part 2:* All levels of scout programming; camping activities; analysis of charters and by-laws; financial requirements; volunteer-professional relationships; the recruiting, development and deployment of volunteers. *Part 3:* Council and district concepts; district organization and structure; unit service functions; relationships to national organization; training of trainers; goal management; publication and charter renewal; resource availability.

Credit recommendation: *Part 1:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Guidance, Recreation, Social Work, Sociology, or Urban Education and Community Affairs (6/75). *Part 2:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Human Relations, Personnel Management, Recreation, or Urban Education and Community Affairs (6/75). *Part 3:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Sociology, or Urban Education and Community Affairs (6/75).

1. National Executive Institute II
2. National Executive Institute III (Problem Solving: A Systems Approach)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA. (After January 1978, National Executive Institute III will be offered at the Schiff Scout Reservation, Mendham, NJ only.)

Length: 1. 36 hours (5 days), residential.
2. 36 hours (5 days), residential.

Dates: January 1974–Present.

Objective: To provide management and human relations training directed towards solving operational problems.

Instruction: *Courses 1 and 2:* Communication skills and techniques; salesmanship; goal management; volunteer involvement; systems approach and case studies in problem solving; time management; program enrichment; self evaluation; finance; membership and outgrowth. *Course 1* is followed by a one-year on-the-job training period. The staff leader and the professional define the best content to meet needs and interest of the participant. At the conclusion of this one-year program another in-depth interview is conducted by the staff leader to determine future professional interest and potential.

Credit recommendation: In the graduate degree category, 3 semester hours in Education, Human Relations, Personnel Management, Recreation, Sociology, or Urban Education and Community Affairs (6/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Staff Leadership (M-5)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 35 hours (5 days); residential.

Dates: January, 1974–Present.

Objective: To provide an understanding of management principles and to develop the skills of Management by Objectives (MBO).

Instruction: Definition of management tasks; the manager and his work; advantages and disadvantages of MBO; force field analysis; personnel practices; job analysis; job description and standards of performance. Lectures, guest lectures, group discussions, audio-visuals, case studies, role plays, simulations, and assigned readings are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or General Management (6/75).

Woodbadge (S-4) (Camping Leadership Workshop)

Location: Selected local council sites.

Length: 60 hours (7 days); residential; 32 hours of precourse work.

Dates: January 1974–Present.

Objective: To provide the development of outdoor skills and effective leadership for professional staff and selected volunteers.

Instruction: A practical experience in outdoor skills (e.g. camp fires, conservation, outdoor cooking, site preparation, hiking, and safety) together with the application of behavioral concepts to personal and group practices. The course includes practice in giving and receiving feedback; trust building; skills in personal, group and inter-group dynamics, and counseling. At the conclusion of practical experience the student develops a "contract" or personal action plan for a period of up to 2 years. In addition, at least 6 months following the conclusion of the on-site experience, a written report is required. Lectures, discussion, audio-visuals, individual and group presentations, and assigned readings are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Camping, Environmental Education, Outdoor Education, Physical Education, or Recreation (6/75).

The California Department of Forestry—Fire Academy

The Fire Academy is primarily a training facility for the Department of Forestry. The Academy provides a variety of courses in fire prevention and fire protection, as well as support courses such as heavy equipment operation and human relations. With assistance from the field, the staff develops and coordinates several courses that are delivered at the regional level.

The Academy, which is located in central California, in the town of Ione, is a complete central training facility that includes an administration building, classrooms, labs, dorms, and a cafeteria. The facility has a fire simulator, dispatch simulator, and fire grounds with flammable liquids and liquified petroleum gas (L.P.G.) special fires. It also has a two-story block building for training in rescue and the control of structure fires.

Source of official student records (except the four courses noted below): Director of Training, California Department of Forestry Fire Academy, Rt. 1, Box 69, Ione, California 95640. Source of official records for the courses noted below: Ranger in Charge (of the individual's current unit), at the 24 Ranger Units within the California Department of Forestry located throughout the state of California. Noted courses are: (1) Basic Fire Control 80 Hours; (2) Fire Management I; (3) Preliminary Fire Investigation; (4) Resource Status Officer (Forms 1 and 2).

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Fire Control

Area 1: (Fire Pump Operation and Hydraulics)
Area 2: (Wildland Fire Control)
Area 3: (Fire Tactics and Strategy)
Area 4: (Rescue Operations)
Area 5: (Supervision)
Area 6: (Fire Investigation)

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: *Version 1:* 240 hours (6 weeks); residential.
Version 2: 200 hours (5 weeks); residential.

Dates: *Version 1:* November 1973–October 1978.
Version 2: June 1967–May 1973.

Objective: To provide the necessary skills to operate and maintain fire apparatus, and to attack and extinguish wildland, structural, and special fires.

Instruction: ***Version 1:*** *Area 1:* Automotive preventive maintenance; safety; fire engine driving; winch operation; emergency vehicle operation; basic hydraulics and pump theory; pump operation and maintenance. *Area 2:* Fire physics; wildland fire behavior; wildland fire size-up; wildland fire control methods; wildland fire organization; basic map reading. *Area 3:* Tactical use of fire engines; respiratory protective breathing equipment; ladders, ropes, and knots; structural fire control; hose lines. *Area 4:* Rescue techniques; emergency scene first aid. *Area 5:* Basic principles of small-group supervision; basic radio communications—methods and procedures. *Area 6:* Methods to determine fire ignition point; recording of observed facts; interview techniques; report preparation. ***Version 2:*** Same as Version 1 except Area 6 is not included. Methodology includes lecture, discussion, simulation, and field exercises.

Credit recommendation: ***Version 1:*** In the lower division baccalaureate/associate degree category, 12 semester hours in Fire Protection Technology or Fire Sciences as follows: *Area 1:* 3 semester hours; *Area 2:* 3 semester hours; *Area 3:* 3 semester hours; *Area 4:* 1 semester hour; *Area 5:* 1 semester hour; *Area 6:* 1 semester hour (6/77). ***Version 2:*** In the lower division baccalaureate/associate degree category, 11 semester hours in Fire Protection Technology or Fire Sciences as specified above but not including Area 6 (6/77). NOTE: Of the total 12 semester hours recommended for credit in Version 1, 9 semester hours (Areas 1, 2, and 3) are recommended to be applied to either baccalaureate programs or associate degree programs; 3 semester hours (Areas 4, 5, and 6) are recommended to be applied to associate degree programs only. Further, if credit is awarded for Version 1, it should not be awarded for Basic Fire Control 80 Hours nor for Preliminary Fire Investigation. NOTE: Of the total 11 semester hours recommended for credit in Version 2, 9 semester hours (Areas 1, 2, and 3) are recommended to be applied to either baccalaureate or associate degree programs; 2 semester hours (Areas 4 and 5) are recommended to be applied to associate degree program only. If credit is awarded for Version 2, it should not be awarded for Basic Fire Control 80 Hours.

Basic Fire Control 80 Hours

Location: California Department of Forestry—Ione, CA, and five Regional Headquarters: North Coast, Santa Rosa, CA; Sierra Cascade, Redding, CA; South Sierra, Fresno, CA; Central Coast, Monterey, CA; Southern California, Riverside, CA.

Length: 80 hours (2 weeks); residential.

Dates: June 1973–October 1978.

Objective: To provide the student with the minimum necessary skills to perform the functions of a Fire Apparatus Engineer in a safe and efficient manner, including vehicle operation and maintenance, fire behavior, and fire scene safety.

Instruction: Equipment identification and assignments; automotive preventive maintenance; driving on and off roads; basic hydraulics; pump operation; fire behavior and control methods. Instruction methods include lecture, demonstration, discussion, and performance of manipulative skills.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Fire Science or Fire Protection Technology (6/77). NOTE: Because of its emphasis on the development of minimal level skills, this course is recommended at the associate degree level only. Credit should not be granted for both this course and Basic Fire Control (200 or 240 hours).

Communications Officer

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 24 hours (3 days); residential.

Dates: May 1972–October 1978.

Objective: To develop the knowledge and skills necessary to serve as a communications officer for extended attack situations and major fires.

Instruction: Analysis of communications systems and practice in allocation of radio frequencies; creation, use, and control of mobile relays, vans, and portable equipment. Lecture, demonstration, and problem-solving through simulated situations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science; or in the upper division baccalaureate category, 1 semester hour in Fire Protection Administration, Fire Protection Technology, or Fire Service Management (6/77).

Dispatcher Training

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 80 hours (2 weeks); residential.

Dates: May 1972–October 1978.

Objective: To develop the knowledge and ability necessary for the proficient operation of consoles and related communications equipment during emergency conditions.

Instruction: Analysis of communications equipment and systems; use of support equipment, status systems, maps, and running cards; understanding of dispatcher responsibilities during emergency and nonemergency conditions. Lecture, discussion, and simulation exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Fire Protection Technology or Fire Science (6/77).

Fire Management I

Location: California Department of Forestry—Fire Academy, Ione, CA, and five Regional Headquarters: North Coast, Santa Rosa, CA; Sierra Cascade, Redding, CA; South Sierra, Fresno, CA; Central Coast, Monterey, CA; and Southern California, Riverside, CA.

Length: 32 hours (5 days); residential.

Dates: October 1970–October 1978.

Objective: To teach the principles of fire ground management to supervisory personnel handling small fires.

Instruction: Principles of first-level supervision; purpose, scope, and history of fire ground management, with emphasis on decision-making responsibilities of the initial attack fire officer; planning, organizing, directing, and controlling resources to meet different situations which require a knowledge of fire behavior and fire strategy. Lecture and discussion are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Fire Protection Technology or Fire Science (6/77).

Fire Management II

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 32 hours (5 days); residential.

Dates: December 1969–October 1978.

Objective: To develop the ability to apply the principles of fire ground management to extended fire situations.

Instruction: The course includes application of the principles of fire ground management to emergency situations of increasing complexity and extended duration; individual and group problem-solving using techniques of simulation; resource allocation; extended fire behavior and control. Lecture, discussion, and simulation models are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Fire Protection Administration, Fire Protection Technology, or Fire Service Management (6/77).

Fire Management III

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 40 hours (5 days); residential.

Dates: May 1973-October 1978.

Objective: To develop the ability to apply the principles of fire ground management to the control of major fires.

Instruction: The course includes application of the principles of fire ground management in emergency situations of large-scale complexity and extended duration; group problem-solving; resource allocation; strategy for major fire control; post-fire critique and evaluation. Lecture, discussion, and simulation models are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Fire Protection Administration, Fire Protection Technology, or Fire Science Management (6/77).

Fire Prevention Analysis and Planning

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 28 hours (4 days).

Dates: March 1977-October 1978.

Objective: To develop the knowledge and skills necessary for preparing an effective plan for fire prevention.

Instruction: Determination of fire prevention needs through information analysis; preparation of plans for utilization of resources. Lecture, discussion critiques, and individual and group exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science (6/77).

Fire Prevention Education

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 32 hours (4 days); residential.

Dates: February 1977-October 1978.

Objective: To develop skills so that the student can effectively present fire prevention information to the public.

Instruction: Public speaking, slide selection, preparation of news items and public service announcements; selection of news outlets; writing of news releases and fire prevention programs. Lecture, discussion, and exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science (6/77).

Heavy Fire Equipment Operator

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 120 hours (3 weeks); residential.

Dates: May 1977-October 1978.

Objective: To develop the knowledge and skills necessary to operate heavy fire equipment in fire control and to perform maintenance on heavy equipment.

Instruction: In wildland fire control the safe and efficient operation of bulldozers and other service apparatus, such as graders, loaders, and ten-wheelers; loading and unloading heavy equipment; preventive and routine maintenance. Lecture, discussion, demonstration, and manipulative training are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Fire Protection Technology or Fire Science (6/77).

Human Relations

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 40 hours (5 days); residential.

Dates: May 1971-October 1978.

Objective: To develop an understanding of the principles of supervision and interpersonal and group relationships.

Instruction: Orientation to differences in organizational goals, personalities, experiences, physical abilities, attitudes, beliefs and value systems; development of sensitivity to the advantages of successful operations achieved through cooperation among different individuals and different groups of people. Lecture and discussion are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Fire Protection Technology or Fire Science (6/77).

Plans Chief

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 32 hours (5 days); residential.

Dates: May 1976-October 1978.

Objective: To develop the knowledge and skills necessary to serve as a plans chief on a major fire.

Instruction: Formulation of a plans section; allocation of available resources; preparation of a preliminary and final action plan, including shift briefing and demobilization plans; instruction in the organization of attack teams; development of communications skills. Extensive prior preparation is necessary for this course. Lecture, discussion, and simulation exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Fire Protection Technology or Fire Science; or in the upper division baccalaureate category, 2 semester hours in Fire Protection Administration, Fire Protection Technology, or Fire Science Management (6/77).

Preliminary Fire Investigation

Location: California Department of Forestry—Fire Academy, Ione, CA, and five Regional Headquarters: North Coast, Santa Rosa, CA; Sierra Cascade, Redding, CA; South Sierra, Fresno, CA; Central Coast, Monterey, CA; and Southern California, Riverside, CA.

Length: 20 hours (3 days); residential.

Dates: February 1972–October 1978.

Objective: To provide students with the knowledge and skills necessary to (1) conduct a preliminary fire investigation; (2) determine fire cause; (3) correctly fill out a preliminary fire investigation report.

Instruction: Analysis of fire scene facts; accurate recording of fire scene information, including interviews and personal observations; determination of source of ignition; interpretation of burn patterns; identification of persons and property; recording of evidence and report preparation. Lecture and discussion are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science (6/77).

Resource Status Officer

Location: *Version 1:* California Department of Forestry—Fire Academy, Ione, CA, and five Regional Headquarters: North Coast, Santa Rosa, CA; Sierra Cascade, Redding, CA; South Sierra, Fresno, CA; Central Coast, Monterey, CA; Southern California, Riverside, CA. *Version 2:* Only at the five Regional Headquarters referenced above.

Length: *Version 1:* 16 hours (3 days); residential.
Version 2: Directed study (approximately 24 hours).

Dates: *Version 1:* March 1974–February 1977.
Version 2: February 1977–October 1978.

Objective: To develop the knowledge and skills necessary to serve as a resource status officer for major fires.

Instruction: *Versions 1 & 2:* Techniques of identifying and labeling fire apparatus and equipment; analysis of resource status information in conjunction with establishing, operating, and demobilizing fire camps. *Version 1:* Lecture and discussion are used. *Version 2:* Self-paced directed study with proctored final examination.

Credit recommendation: *Versions 1 & 2:* In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science (6/77).

Service Chief

Location: California Department of Forestry—Fire Academy, Ione, CA.

Length: 32 hours (5 days); residential.

Dates: April 1976–October 1978.

Objective: To develop the knowledge and skills necessary to serve as a service chief (logistics officer) on a major fire.

Instruction: Criteria for selection of adequate support facilities; provision of personnel, equipment, supplies, services, and materials; movement and coordination of equipment and personnel; feeding and otherwise providing for personnel needs; handling of other logistics problems. Extensive prior preparation is necessary for this course. Lecture, discussion, and problem-solving through the use of simulated situations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Fire Protection Technology or Fire Science; or in the upper division baccalaureate category, 2 semester hours in Fire Protection Administration, Fire Protection Technology, or Fire Science Management (6/77).

California Department of General Services

The Department of General Services of the State of California is comprised of 23 divisions and offices. They provide centralized services to all other state departments in areas such as management policies, statewide standards and guidelines and support services.

The course that follows is one of many courses that the Department of General Services Training Office conducts in the areas of communication, supervision, and management skills.

Source of official student records: Department of General Services Training Office, 1518 L Street, Sacramento, California 95814.

Additional information about the course: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

First-Line Supervisors Workshop

Location: Sacramento, Los Angeles, San Francisco, CA.

Length: 35 hours (1 week).

Dates: May 1978–Present.

Objective: To develop basic skills in supervision in public agencies.

Instruction: An introduction to basic principles and skills of supervision. Included are introductions to motivation, group leadership, job enrichment, goal setting, planning and scheduling techniques, employee appraisals, resolving discipline problems, training and manpower planning. The course emphasizes the role of the supervisor and the development of interpersonal skills. The course is equivalent to an introductory course in supervision. Lectures, group discussions, role playing, and audio-visual materials are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Public Administration (5/78). NOTE: In order to be eligible for credit, student must successfully complete optional examination.

California State Police

The primary objective of the California State Police Division is to protect and provide police services for the State buildings and grounds and their occupants. The Division is also responsible for the physical security of the Governor, other constitutional officers of the State, and the legislators of the State.

The Basic Police Officer Training course, which is certified by Peace Officer Standards and Training (P.O.S.T.), is attended by all newly appointed officers of the California State Police Division. State college campus police and personnel from other specialized law enforcement agencies in the State also attend this program. The Protection of Public Officials course is also offered to all of the above.

Source of official student records: Training Commander, California State Police Division Headquarters, 1025 T Street, Room 199, Sacramento, California 95814.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Police Officer Training

Location: California State Police Specialized Law Enforcement Academy, Bryte, CA.

Length: 410 hours (10 weeks).
Part 1: 312 hours.
Part 2: 16 hours.
Part 3: 82 hours.

Dates: October 1976–August 1978.

Objective: To provide the student with an understanding of the basic principles of law enforcement in California.

Instruction: *Part 1:* The course is designed for newly appointed law enforcement personnel, and emphasizes basic principles of public and community relations, criminal law, law of arrest, juvenile procedures, firearms, defensive driving, interviews and interrogations, patrol and observation, officer survival, rules of evidence, search and seizure, traffic regulation and control, ethics and professionalization, and criminal investigation. Methodology includes lecture, discussion, demonstration, case studies, field instruction, and role playing supported by audio-visual aids. *Part 2:* Basic knowledge and skills needed for the emergency care of the injured; prevention of accidents through the elimination of causes; cardio-pulmonary resuscitation. Methodology includes lecture, discussion, demonstration, and student participation. *Part 3:* Physical conditioning, defensive tactics, mechanics of arrest and control techniques. Methodology includes lecture, demonstration, and field application.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 7 semester hours in Administration of Justice or Criminal Justice. *Part 2:* In the lower division baccalaureate/associate degree category, 1 semester hour in Health and Safety Instruction or Physical Education. *Part 3:* In the lower division baccalaureate/associate degree category, 2 semester hours in Physical Education (10/77).

Protection of Public Officials

Location: California State Police Specialized Law Enforcement Academy, Bryte, CA.

Length: 40 hours (5 days).

Dates: October 1974–Present.

Objective: To provide law enforcement personnel with practical solutions and techniques for resolving problems and preventing injury to, harassment or embarrassment of, public officials.

Instruction: Assassinations preview; legal and practical aspects; definitions and terminology; security posts; identification systems; advance procedures and techniques; advance survey; explosive ordnance search and disposal; working the principal, firearms, motorcades; ten-minute medicine; cardio-pulmonary resuscitation; office and residence security and intelligence. Methodology includes lecture, discussion, demonstration, and case studies supported by audio-visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Administration of Justice or Criminal Justice (10/77).

Capitol Radio Engineering Institute

The Capitol Radio Engineering Institute (CREI) is a correspondence institution founded in 1927. It offers technical programs in electronics for technicians who desire to become technologists and engineers. Located in Washington, D.C., CREI has a world student body numbering about 35,000. It was acquired by McGraw-Hill, Inc. in 1967, and now functions as a division of the McGraw-Hill Center for Continuing Education.

Source of official student records: CREI Student Service, 3939 Wisconsin Avenue, N.W., Washington, D.C. 20016.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

1. Electronic Engineering Technology (Core Program 201)

Part 1: (Technical Mathematics)
Part 2: (Circuit Fundamentals)
Part 3: (Electronic Devices and Circuits)
Part 4: (Introduction to Electronic Communications)

2. Electronic Design Laboratory Program (Linear Circuit and Electronic Laboratory)

Length: *Course 1:* 50 lessons (Typical student requires 900 hours to complete the course over 23-36 months). *Course 2:* 6 units/taken in conjunction with the 50 lessons of Electronic Engineering Technology (Typical student requires 100 hours to complete the course).

Dates: *Course 1:* September 1972-Present.
Course 2: September 1975-Present.

Objective: ***Course 1:*** *Part 1:* To provide students with a mathematical background appropriate to an electronic technology curriculum. *Part 2:* To provide students with a knowledge of circuit fundamentals. *Part 3:* To provide students with a thorough background in the application of electronic devices to specific circuits. *Part 4:* To provide students with a background in AM and FM receiver systems. ***Course 2:*** To provide students with practice in the application of the basic electrical fundamentals and to acquaint the student with the use of basic electronic measuring equipment.

Instruction: ***Course 1:*** *Part 1:* Basic algebra; scientific notation; college alegbra; logarithms; determinants; geometry; trigonometry; graphs; vectors; quadratic equations; imaginary operator; basic calculus with differentiation and integration. *Part 2:* Ohm's law applied to series, parallel, and combination circuits; magnetic circuits; transformers; inductance, capacitance; RL and RC circuits; resonance; Kirchhoff's voltage and current laws; phasor notation; Thevenim's and Norton's theorems. *Part 3:* Basic principles of operation of the electron tube, semiconductor diodes, transistors, integrated circuits. Specialized application of these devices to transistor biasing and stability, amplifier design, oscillator design, and electron tube circuit design. *Part 4:* Basic communication engineering principles are covered, including amplitude modulation, frequency modulation, solid state audio amplifiers, AM and FM receivers. ***Course 2:*** Use of Volt-Ohm meter, oscilloscope and signal generator. Students design, build, and test a variety of circuits by using the information gained throughout the Electronic Engineering Technology Program.

Credit recommendation: ***Course 1:*** *Part 1:* In the lower division baccalaureate/associate degree category, 8 semester hours in Technical Math (11/76).

Part 2: In the lower division baccalaureate/associate degree category, 6 semester hours in Electronics or Electronic Technology (11/76). *Part 3:* In the lower division baccalaureate/associate degree category, 6 semester hours in Electronics or Electronic Technology (11/76). *Part 4:* In the lower division baccalaureate/associate degree category, 3 semester hours in Electronics or Electronic Technology (11/76). ***Course 2:*** In the lower division baccalaureate/associate degree category, 5 semester hours in Electronics or Electronic Technology (11/76). NOTE: Course 1 and 2 must both be completed in order to receive credit unless the student has equivalent laboratory experience.

Electronic Engineering Technology (Core Program 140)

Part 1: (Mathematics)

Part 2: (Basic Electric Circuit Theory)

Part 3: (Electronic Circuit Theory)

Length: 40 lessons; (typical student requires 500 hours to complete the course in 13-36 months).

Dates: April 1978-Present.

Objective: to provide knowledge of electronic technology to those with minimal experience in electronics. *Part 1:* To provide a sufficient mathematical background to solve electronic technology-related problems. *Part 2:* To provide a knowledge of basic electric circuit theory. *Part 3:* To provide a comprehensive background in the application of electronic devices to specific electronic circuits.

Instruction: *Part 1:* Review of arithmetic; fractions and decimals; basic algebra, geometry, and trigonometry; graphs; phasors; operator j; simultaneous equations. *Part 2:* Fundamentals of electronics; magnetism; series circuits; basic electronic circuits; electronic notation; resistance; alternating current; inductance; capacitance; RL and RC circuits; series and parallel resonance; Kirchhoff's law; circuit analysis; inductors and inductive coupling; network theorems. *Part 3:* Introduction to solid-state electronics; transistors; integrated circuits; semiconductor diodes; transistor operation; transistor biasing and stability; solid-state parameters; amplifier design; differential and operational amplifiers; oscillators; pulse techniques; power supplies; solid-state switching; integrated-circuit applications.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 3 semester hours in Technical Mathematics (8/78). *Part 2:* In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Circuit Theory (8/78). *Part 3:* In the lower division baccalaureate/associate degree category, 6 semester hours in Electronic Circuit Theory (8/78). NOTE: These recommendations should be applied on the basis of institutional assessment of the individual seeking credit.

Minicomputer and Microprocessor Technology (Program 680)

Part 1: (Mathematics)

Part 2: (Electric Circuit Fundamentals)

Part 3: (Electronic Circuit Fundamentals)

Part 4: (Digital Logic and Microprocessor Applications)

Length: 50 lessons; (typical student requires 650 hours to complete the course in 16-36 months).

Dates: April 1978-Present.

Objective: *Part 1:* To provide a sufficient mathematical background to understand digital circuits and computer systems. *Part 2:* To introduce circuit fundamentals. *Part 3:* To provide a thorough background in the application of electronic devices to specific circuits. *Part 4:* To provide a background in digital circuits and the structure and operation of minicomputers and microprocessors.

Instruction: *Part 1:* Review of arithmetic, fractions, scientific notation, graphs, algebra, and second order simultaneous equations. *Part 2:* Ohm's law applied to series, parallel, and combination circuits; magnetism, inductance, and capacitance fundamentals; AC circuit concepts; time constants; resonance. *Part 3:* Basic principles of operation of semiconductor diodes; specialized application of transistors to transistor biasing, stability, amplifier design, oscillators, pamer supplies, and operational amplifiers. *Part 4:* Number system conversions; integrated logic circuit types; application and use of Boolean algebra; Karnaugh maps and truth tables; pulse techniques; solid state switching; brief history, operation, and application of digital computers and microprocessors. Sequential logic circuits are not presented. Also covers peripheral devices, programming software, high-level languages, and introduces numerical control.

Credit recommendation: *Part 1:* No recommendations at the college level. *Part 2:* In the lower division baccalaureate/associate degree category, 1 semester hour in Basic Digital Circuits and Logic (8/78). *Part 3:* In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Science (8/78).* *Part 4:* In the lower division baccalaureate/associate degree category, 6 semester hours in Electronic Circuit Theory *(8/78). *NOTE: These recommendations should be applied on the basis of institutional assessment of the individual seeking credit.

Specialized Electronic Engineering Technology (Core Program 100 *excluding* major elective)

Part 1: (Mathematics)

Part 2: (Basic Electric Circuit Theory)

Part 3: (Electronic Circuit Theory)

Length: 34 lessons (typical student requires 500 hours to complete the course in 13-36 months).

Dates: April 1978-Present.

Objective: To provide knowledge of electronic technology to those with extensive experience in electronics. *Part 1:* To provide a sufficient mathematical background to solve electronic technology-related problems. *Part 2:* To provide a knowledge of basic electric circuit theory. *Part 3:* To provide a comprehensive background in the application of electronic devices to specific electronic circuits.

Instruction: *Part 1:* Negative numbers and exponents; basic algebra; geometry and trigonometry; graphs; phasors; operator j; simultaneous equations. *Part 2:* Fundamentals of electronics; circuit theory; Ohm's law; resistance; alternating current; inductance; capacitance; RL and RC circuits; series and parallel resonance; Kirchhoff's law; circuit analysis; inductors and inductive coupling; network theorems. *Part 3:* Introduction to solid-state electronics; semiconductor diodes; transistor operation; transistor biasing and stability; solid-state parameters; amplifier design; differential and operational amplifiers; oscillators; power supplies; pulse techniques; solid-state switching; integrated-circuit applications.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 3 semester hours in Technical Mathematics (8/78). *Part 2:* In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Circuit Theory (8/78). *Part 3:* In the lower division baccalaureate/associate degree category, 6 semester hours in Electronic Circuit Theory (8/78). NOTE: These recommendations should be applied on the basis of institutional assessment of the individual seeking credit.

City of Sacramento

The City of Sacramento is both the Capitol City of the State of California and the seat of the Sacramento County government. The City is organized under the Council/Manager form of municipal government; eight council members are elected to four-year terms by districts and the mayor is elected Citywide.

Sacramento adopted its charter in 1921. The City is approximately 95 square miles in area and is home for over 260,000 residents. The City provides a broad range of public services for its residents and employs nearly 4,000 workers.

The City offers a wide variety of educational and training activities to promote personal and career development of its employees. These activities include management, supervisory and technical courses, as well as information programs. The following courses are an integral part of the management and supervisory training programs.

Source of official student records: Safety and Training Office, City of Sacramento, 801 Ninth Street, Sacramento, California 95314.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Supervisorial Course (SBO)

Location: Sacramento Waste Water Treatment Plant; American River Water Treatment Plant, Sacramento, CA.

Length: 24 hours (one-half day for 6 weeks).

Dates: April 1974-Present.

Objective: To provide a basic understanding of supervision by objectives.

Instruction: Introduction to supervisory practices, role of the supervisor, determination of objectives, development of employee cooperation, training, and solving supervisory problems. In addition, participants also develop an understanding of discipline, motivation, and employee counseling. Lecture, discussion, films, case studies, and experiential learning techniques are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (8/77).

Management Course (MSP)

Location: Sacramento Waste Water Treatment Plant; American River Water Treatment Plant, Sacramento, CA.

Length: 24 hours (one-half day for 6 weeks).

Dates: January 1975–Present.

Objective: To introduce management-by-objectives concepts that can be used to improve managerial performance in ongoing activities.

Instruction: The role of the manager; the management system; objective performance measurement; communication; leadership and problem solving. Classroom instruction utilizes lecture, discussion, films, and experiential learning techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (8/77).

Communications Workers of America

The Communications Workers of America represents more than 600,000 workers including telephone operators, installers, and repairmen, computer operators, social workers and public employees. There are 900 CWA locals in all parts of the country.

The CWA's constitution mandates a training department at the national level as well as an education committee in each local. The training department develops material and administers programs for 5,000 new stewards and 3,000 advanced stewards each year. Over 1,000 local officers and stewards attend special one-week seminars each year; and every three years, over 3,000 newly-elected local officers attend a series of three-day seminars to acquaint them with their duties. Newly-appointed, full-time national staff representatives attend the CWA New Staff Training Program.

Source of official student records: Headquarters Staff/Training, Communications Workers of America, 1925 K Street, N.W., Washington, D.C. 20006.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

New Staff Training

Location: AFL-CIO Labor Studies Center, Silver Spring, MD.

Length: 224 hours (6 weeks); residential.

Dates: April 1973–Present.

Objective: To provide students with specialized skills, knowledge, and materials applicable to their positions as international union staff.

Instruction: This six week program is divided into morning classroom sessions, afternoon sessions that are primarily devoted to individual projects and structured learning situations, and two evening sessions per week devoted to demonstrations. The areas of concentration within the program are educational skills and resources, leadership process, design and implementation of training programs, legislative and political programs and problems, the practice of collective bargaining, and organizing techniques. *Week 1: Inventory of educational skills and resources.* Instruction emphasizes experience-based learning through project design, learning contracts, group-process exercises, and problem-solving aids. *Week 2: Leadership process.* Analysis of the leadership process within small groups, large organizations, and the community. Introduces the student to the design and implementation of training programs. *Week 3: Practice of collective bargaining.* Covers policies and methods of collective bargaining, using lectures, discussions, and simulation exercises. *Week 4: Legislative and political problems and programs.* Covers the legislative process and political action strategies (including fund-raising, voter registration, lobbying, and field trips to political party headquarters). *Week 5: Organizing techniques.* Covers union building through internal and external organizing techniques within the context of labor relations law and regulations. Role of National Labor Relations Board in representation elections and unfair labor practices. *Week 6:* Devoted to special topics and completion, presentation, and evaluation of final projects. Throughout the program, there is strong emphasis on self-directed learning under the guidance of a tutor. The participants are required to submit a learning contract for each week of the program, conduct two evening sessions, and complete and present a project during the final week of the program.

Credit recommendation: In the upper division baccalaureate category, 9 semester hours in Labor Studies or Social Science (9/75).

Continental Telephone Corporation

Continental Telephone Corporation is the nation's third largest independent telephone company. Employing approximately 15,000 people, Continental provides telephone service to principally suburban and rural communities in 40 states, the Caribbean, and Canada.

The Department of Education and Development, located at the Corporate headquarters in Atlanta, Georgia writes and revises all of the class material. These courses stress basic fundamentals of management. Although directed more toward the introductory levels (supervisors and superintendents), the courses also serve as review and brush-up sessions for higher levels of management.

The Corporate staff is responsible for qualifying instructors as well as for quality control.

Source of official student records: *Eastern Region:* Personnel Development Manager, Continental Telephone Corporation, P.O. Box 401, Merrifield, Virginia 22116. *Central Region:* Personnel Development Manager, Continental Telephone Corporation, 222 South Central, St. Louis, Missouri 63105. *Western Region:* Personnel Development Manager, Continental Telephone Corporation, 1350 Norris Road, Bakersfield, California 93308.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Advanced Management Training (Management Skills Workshop)

Location: Bakersfield, CA; Victorville, CA; Dallas, TX; Phoenix, AZ; Bellevue, WA; St. Charles, MO; Leesburg, VA.

Length: 36 hours (1 week).

Dates: August 1978–Present.

Objective: To review selected topics central to the management process with emphasis on materials designed to improve managerial performance.

Instruction: The management process: problem solving and decision making; time management; motivation; union-management relations; financial management. Methodology includes lectures, role-play exercises, class discussions, and reading assignments.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration, Management, or Public Administration (8/78). NOTE: Student must complete optional examination to receive credit.

Better Business Writing

Location: Bakersfield, CA; Victorville, CA; Dallas, TX; Phoenix, AZ; Bellevue, WA; St. Charles, MO; Leesburg, VA.

Length: 36 hours (1 week).

Dates: August 1978–Present.

Objective: To develop the students' skill in written communications.

Instruction: Principles and application of effective written communications with emphasis on clarity, precision, and easy-to-read letters, memos, and reports. Methodology includes lectures, writing, and critiques of written assignments by instructor and class participants.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Business Communications (8/78). NOTE: Student must complete optional examination in order to receive credit.

Initial Management Training (Orientation to Management)

Location: Bakersfield, CA; Victorville, CA; Dallas, TX: Phoenix, AZ; Bellevue, WA; St. Charles, MO; Leesburg, VA.

Length: 36 hours (1 week).

Dates: August 1978–Present.

Objective: To provide the student with a concise preview of, and preparation for, a managerial/supervisory job with emphasis on communication.

Instruction: Communication skills and application of selected management principles to the solution of job-related problems. Role of the manager; conducting meetings; decision making; responsibility and authority; induction of new employees; affirmative action; listening techniques; dealing with paper, promotion, and attitude surveys. Methodology includes lecture, sub-group exercises, role plays, case studies, discussion, and audio-visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration, Management, or Public Administration (8/78). NOTE: Student must complete optional examination to receive credit.

County of Sacramento

The County of Sacramento is one of the 27 original California Counties formed in 1850 by the State Legislature. It emcompasses 1,000 square miles and, with a population of over 686,000 persons, is the seventh most populous County in the state.

The Sacramento County Training Office provides a variety of educational and training services to County employees, including a tuition reimbursement program, on-site college courses, library and audio-visual equipment lending, employment counseling, new employee orientation and supervisory and management training programs. The following courses are basic elements of the County training program.

Source of official student records: County Training Officer, 700 H Street, 5th Floor, Sacramento, California 95814.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Middle Management Training Program

Location: County of Sacramento, Sacramento, CA.
Length: 51 hours (8 weeks).
Dates: May 1978–Present.
Objective: To provide an overview of the manager's role in a governmental institution.
Instruction: An introduction to concepts of management—planning, organizing, directing, and controlling. Also included are group dynamics, managing differences, organizational change, management by objectives, staff development, and affirmative action. Lecture, discussion, case studies, role playing, and audio-visual materials are used.
Credit recommendation: In the upper division baccalaureate or in the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Public Administration (5/78). NOTE: To be eligible for credit, student must successfully complete optional examination.

Supervisory Training Program

Location: County of Sacaramento, Sacramento, CA.
Length: 56 hours (8 weeks).
Dates: May 1978–Present.
Objective: To examine and develop fundamental skills in first-line supervisors, emphasizing supervision in public organizations.
Instruction: Basic introduction to principles of supervision including planning (and time management), leadership, motivation, decision making, employee appraisal and training, discipline and grievance handling, affirmative action, social responsibility, and safety. Lectures, role playing, discussion, films, and simulations are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Adminstration or Public Administration. NOTE: In order to be eligible for credit, student must successfully complete optional examination (5/78).

Crocker National Bank

Crocker's Training Department offers numerous courses in banking skills, management, educational development, and special subjects to all employees in the bank's system of administrative departments and community offices throughout California as well as for the Bank's national and international activities.

Instructors are experienced training professionals. Courses are conducted at training's headquarters either in San Francisco or Los Angeles, or instructors travel to regional offices throughout California and the United States.
Source of official student records: Extended Education Department, Crocker National Bank, 79 New Montgomery, 4th Floor, San Francisco, California 94104.
Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Bank Management Simulation (CC 731)

Location: All Crocker Bank training locations throughout California.
Length: 24 hours (4 weeks).
Dates: September 1975–Present.
Objective: To provide a contemporary view of bank management policies and to simulate bank portfolio management techniques.
Instruction: Preparatory readings and cases introduce the banking system and the economy. Student teams participate in the Stanford Bank Management Simulator (SBMS) of bank portfolio management. Each team is responsible for decisions which are made after class and include two to three hours of discussion. Participants are responsible for two to three hours of pre-preparation including background reading on commercial banking.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking or Finance (2/78).

Banking and Credit Seminar (AC 704)

Location: Off-site residential seminars.
Length: 72 hours (2 weeks).
Dates: May 1977–Present.
Objective: To study international and domestic issues in financial management, accounting, cash flow analysis, economics and credit policy; to study the loan decision process, credit analysis, loan review, and legal aspects of lending and documentation.
Instruction: Course provides instruction and case analysis illustrating environmental factors affecting credit policy and experience, techniques of financial analysis and risk, financial forecasting, and case analysis of large and complex lending activities. Enrollment is limited to Crocker Bank Officers familiar with international and domestic lending activities. Course is conducted by a team of graduate faculty.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Banking or Finance (2/78).

(Business Communications)

1. **Written Communications Skills (AE 779)**
2. **Oral Presentations Skills Workshop (AA 730)**
3. **Letter Writing (AE 778)**

Location: Crocker training locations throughout California.

Length: 1. 20 hours (self-paced).
2. 18 hours (2 1/2 days).
3. 18 hours (self-paced).

Dates: September 1977–Present.

Objective: To develop skills in written communication and in preparing and making oral presentations; to improve ability to write clear, well-organized business letters.

Instruction: 1) A self-paced workbook with readings and exercises including correspondence exercises for critical review by instructor. 2) Workshop in audience analysis, development of content, use of visual aids and statistical supporting data, practice in speech presentation. Videotape playback is used as a critique method. 3) A self-paced workbook and group meetings to review exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Communications. Courses 1 and 2: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Communications (2/78). NOTE: Course 3 taken by itself is not recommended for credit.

(Commercial Lending)

1. **Financial Statement Analysis for Commercial Lending 1 (AE 709)**
2. **Commercial Lending 1 (AE 705)**

Location: Crocker training locations through California.

Length: 1. 30 hours (self-paced).
2. 120 hours (self-paced).

Dates: January 1977–Present.

Objective: To teach basic skills in accounting and financial statement analysis; to develop the knowledge and skills needed to make quality commercial loans.

Instruction: Introduction to financial statement composition and analysis, the loan process, analysis of loan purpose and repayment sources, supporting analysis, loan implementation and management. Course Manager certifies written performance tests.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Banking, Business Administration, of Finance (2/78). NOTE: Credit is recommended only for students who complete a course in Principles of Accounting prior to enrolling in Commercial Lending.

Crocker Business Development Skills Workshop (AE 677)

Location: All Crocker Bank headquarters in California.

Length: 27 hours (3 days).

Dates: September 1977–Present.

Objective: To provide an organized approach to the sales effort.

Instruction: Basic concepts of salesmanship, analyzing customer needs, presenting benefits, dealing with customer responses, closing the sale. The course employs text, audio-visual materials, and role playing.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration/Salesmanship (2/78).

Managerial Styles and Organizational Effectiveness (AA 727)

Location: Off-site residential workshops throughout California.

Length: 50 hours (1 week) plus 8 hours (a 1-day follow-up session—individual consultation).

Dates: January 1977–Present.

Objective: To provide theoretical frameworks (e.g., Likert, Blake and Mouton) for analyzing managerial styles and effectiveness and to promote self-analysis of managerial style and preparation of personal action plans for improvement.

Instruction: Analytical tools and techniques in a lecture/discussion format. Small group sessions provide interpersonal communications and critique of self-analysis of managerial style. Individual follow-up consultations provide feedback on personal action plans for managerial style improvement.

Credit recommendation: In the upper division baccalaureate or graduate degree category, 3 semester hours in Management (Organizational Development) (2/78).

Supervisory Skills Workshop (AA 651)

Location: Crocker training locations throughout California.

Length: 36 hours (2 weeks).

Dates: January 1977–Present.

Objective: To provide an understanding of the basic principles of supervision and personnel administration.

Instruction: Role of the supervisor, personnel administration, performance appraisal, employee relations, legal aspects of supervision. Instructional methodology includes role play, case problems, lecture, and group discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management/Personnel Administration (2/78).

Dana Corporation

Dana Corporation, a multinational company with approximately 24,000 U.S. employees in 64 plants, manufactures and markets proprietary components and systems for the transmission and control of power in the vehicular and industrial markets.

To facilitate a promote-from-within policy, each division of the company sponsors local training, sends people to association or university sponsored workshops and seminars, and encourages the use of a tuition refund plan for undergraduate and postgraduate college courses. Personal growth also takes place through active job-rotation programs.

At the corporate level, Dana University exists for management development education. Through nearly 100 one-week course offerings annually, Dana University reaches almost half of the company's 4,000 managers each year. Programs are conducted by a full-time central staff and are presented in Toledo, in Dana plant cities, and overseas.

Source of official student records: President, Dana University, Dana Corporation, P.O. Box 1000, Toledo, Ohio 43697.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Asset Management

Location: Toledo, OH; various field locations.
Length: 48 hours (1 week).
Dates: April 1977–Present.
Objective: To provide students with an understanding of money management and the effect of decisions on the profit center in a manufacturing organization.
Instruction: Teams of students study the effects of routine factory cost decisions on the financial management of the organization. Discussion and team activities lead to the development of long-range objectives, which in turn contribute to an understanding of asset management in the manufacturing organization. (Prerequisite: Cost Control for Profit Planning.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77).

Business Practices

Location: Toledo, OH; various field locations.
Length: 33 hours (1 week).
Dates: April 1977–Present.
Objective: To improve students' skills in written and oral communications and to provide them with an understanding of management relationships and practices.
Instruction: Case studies, written exercises, and films are used extensively along with some lectures in which theory is presented. Specific techniques are discussed for improving skills in preparing written communications, in listening, and in conducting meetings. These are brought together in group discussions, group dynamics exercises and individual work on a "manager's in-basket" case.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Communications (4/77).

Cost Control for Profit Planning (Manufacturing Cost and Controls)

Location: Toledo, OH; various field locations.
Length: 48 hours (1 week).
Dates: April 1977–Present.
Objective: To develop the student's skills in analyzing cost factors, including manpower, materials, and machines.
Instruction: Covers a standard cost system, direct and indirect material and labor costs, fixed and variable expense and burden absorption. Methodology includes participant involvement in a series of management simulation exercises related to the cost and profit consequences of such factors as volume change, purchased material cost change, and product mix change.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77).

Fundamentals of Supervision I (Supervisory Management)

Location: Toledo, OH; various field locations.
Length: 34 1/2 hours (1 week).
Dates: April 1977–Present.
Objective: To improve the supervisory skill and knowledge of new and experienced first-line supervisors.
Instruction: The theory and practical application of management and human relations principles to labor relations, grievance, and arbitration procedures. Lecture, case studies, and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management (4/77).

Fundamentals of Supervision II (Principles of Organizational Behavior)

Location: Toledo, OH; various field locations.
Length: 35 hours (1 week).
Dates: April 1977–Present.
Objective: To improve the first-line supervisor's understanding of the principles of organizational behavior.

Instruction: Motivational theories of Maslow and McGregor and the managerial grid as they apply to manufacturing organizations; the effect of different decision-making and managerial styles on human relations. Methods include case studies, lectures, discussion, and role playing.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management (4/77).

Fundamentals of Supervision III

Location: Toledo, OH; various field locations.

Length: 36 hours (1 week).

Dates: April 1977–Present.

Objective: To provide first-line supervisors with an understanding of (1) the effects of costs on the financial performance of a manufacturing organization and (2) labor-management relations and grievance procedures.

Instruction: Cost decision making theory is examined in the context of burden studies, machine utilization, schedules, inventory costing, and investment concerns. Labor relations theory is reviewed with role playing of labor-management negotiations as they relate to grievance procedures and the arbitration process.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management and 1 semester hour in Labor-Management Relations (4/77).

Intermediate Management

Location: Toledo, OH; various field locations.

Length: 50 hours (1 week).

Dates: April 1977–Present.

Objective: To develop the student's skills in the use of management by objectives.

Instruction: Application of management by objectives in a supervisor-subordinate situation, including specific applications, skill building, and critique. The methodology involves a case study analysis, using a team approach and applying management by objectives to a plant situation. An in-basket exercise is used in which participants are given the opportunity to establish and implement a system of management by objectives.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77).

Managerial Styles Seminar

Location: Toledo, OH; various field locations.

Length: 45 hours (1 week); 30 hours of preparatory independent study.

Dates: April 1977–Present.

Objectives: To develop students' skills in identifying and assessing managerial behavior so that they might gain insight into their own managerial styles and the effects of different styles on team action.

Instruction: Working in teams, the students engage in exercises designed to identify managerial styles and to determine their impact on others. A laboratory approach is used through discussion periods, case studies, and a feature-length movie.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77).

Problem Solving and Decision Making

Location: Toledo, OH; various field locations.

Length: 44 hours (1 week).

Dates: April 1977–Present.

Objective: To develop the student's skill in applying appropriate management principles to problem analysis and decision making.

Instruction: Working in simulated management teams, students participate in case studies and exercises in the area of situation analysis, problem analysis, and decision making. Applications are made to writing performance standards, selecting new hires, preparing development plans, evaluating communication, and improving meeting effectiveness.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77).

Sales Development

Location: Toledo, OH; various field locations.

Length: 40 hours (1 week).

Dates: April 1977–Present.

Objective: To provide students with knowledge of the sales organization and the sales functions of the organization, and to develop the sales skills of individual student participants.

Instruction: Lectures and discussion cover the salesman's responsibilities and the marketing function of the organization as they relate to the individual salesman. Market forecasting, product liability, and persuasive sales techniques are included. Role playing and video tape techniques are also used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Sales Management (4/77).

Speech Workshop (Effective Speaking)

Location: Toledo, OH; various field locations.

Length: 40 hours (1 week).

Dates: April 1977–Present.

Objective: To develop skills in organizing and delivering oral presentations.

Instruction: Preparation, analysis, and presentation of impromptu, persuasive, and informative speeches. Methodology includes the use of video tape to critique performance and improve individual effectiveness.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Speech (4/77).

Defense Contract Audit Agency

The Defense Contract Audit Agency (DCAA), with a staff of 2900 professional auditors, performs all necessary contract audits for the Department of Defense (DoD), and provides accounting and financial advisory service regarding contracts to all DoD components responsible for procurement and contract administration. DCAA also furnishes advisory contract audit service to a number of other government agencies.

The Defense Contract Audit Institute (DCAI), located in Memphis, Tennessee, is the educational arm of DCAA. It provides training in auditing, management, and supervision for auditing and administrative personnel. The courses are occasionally offered at regional locations.

Source of official student records: Registrar, Defense Contract Audit Institute, Defense Contract Audit Agency, Administration Building, 3rd Floor, Defense Depot Memphis, Memphis, TN 38114.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

ADPI (561)
(Formerly Auditing in an ADP Environment [825])
(Applications of ADP Concepts to Auditing)

Location: Defense Contract Audit Institute, Memphis, TN.

Length: 33 hours (5 days).

Dates: February 1975–Present.

Objective: To develop fundamental knowledge of the system of internal controls in ADPS, ADP documentation, programming, programming languages, and the techniques and uses of the computer for auditing computerized systems.

Instruction: Fundamentals of computer controls including computer security and fraud elements, ADP terminology, ADP documentation, programming concepts, programming language, and the uses of the computer in audit. Lecture, discussion, case problems, individual and team practice are used. (Prerequisite: Basic ADP Training Self-Study (813) and Flowcharting (862).)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Accounting (11/75).

Graphic, Computational and Improvement Curve Analysis Techniques (820)

Location: Defense Contract Audit Institute, Memphis, TN.

Length: 64 hours (8 days).

Dates: August 1975–May 1978.

Objective: To develop the knowledge and skills of auditors in the use of various analytical techniques as a supplemental tool in performing the audit/evaluation.

Instruction: Simple linear and curvilinear correlation analysis; time series; multiple regression analysis; PIECOST; improvement curves; related statistical measurements. The student is instructed in and is given hands-on experience in the use of time-sharing computer terminals. (Prerequisite: Basic Graphic Analysis and Basic Improvement Curve.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting or Operations Research (11/75).

Statistical Sampling (412)
(Formerly Statistical Sampling Seminar [823])
(Applications of Statistical Sampling Concepts to Auditing)

Location: Defense Contract Audit Institute, Memphis, TN; occasionally in regional locations.

Length: 33 hours (5 days); 40 hours preparatory independent study.

Dates: August 1975–Present.

Objective: To improve the knowledge and skills of auditors in the use of statistical sampling techniques in the performance of contract audit assignments.

Instruction: Covers the interrelationships of statistical sampling and other audit techniques, comparison between probability and subjective sampling, and considerations in determining the application of each, especially the judgmental aspects in audit appraisal of sample results. Actual statistical sampling applications, including the use of time-shared computer programs are presented, reviewed, and discussed. There are workshop sessions using case studies and class and group discussions. (Prerequisite: Statistical Sampling Self-Study (811).)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Accounting. (11/75).

Supervision and Technical Management of Audits (842)
(Formerly Supervision and Technical Management of Audits [826])

Location: Defense Contract Audit Institute, Memphis, TN.

Length: *Version 1:* 33 hours (5 days); 32 hours preparatory independent study.
Version 2: 64 hours (8 days); 8 hours preparatory independent study.

Dates: *Version 1:* May 1975–November 1976.
Version 2: November 1976–Present.

Objective: To increase the skills, knowledge, and perspective of the supervisor in managing the audit and the auditor.

Instruction: Subject matter is designed within the total Audit Concept Technique (TACT). Procedural and psychological factors in delegating responsibilities and authority; problem-solving process; communication information pertaining to two kinds of ideas, observations and inferences; and the preparation of the FAO Annual Program Plan. Lectures, films, case study, case situations, tests, reading and study assignments, and group discussions are used.

Credit recommendation: *Versions 1 & 2:* In the upper division baccalaureate category, 2 semester hours in Advanced Auditing (11/75).

Digital Equipment Corporation

Digital Equipment Corporation (DEC) is an international manufacturer of digital computer systems, headquartered in Maynard, Massachusetts. DEC conducts training programs for manufacturing personnel, field service personnel, and customers.

The Manufacturing Training Department provides the technical and skills training necessary for the manufacture of computer systems. The technical training programs cover computer logic, concepts, and programming for Digital's computer systems. Courses are designed for computer technicians and engineers.

Manufacturing training is conducted at DEC plants in the following locations: Maynard, Massachusetts; Marlborough, Massachusetts; Westminster, Massachusetts; Westfield, Massachusetts; Salem, New Hampshire; Phoenix, Arizona; Puerto Rico; Kanata, Canada; Galway, Ireland; and Ayr, Scotland.

Source of student records: Central Manufacturing Training Office, Digital Equipment Corporation, ML 1/E30, 146 Main Street, Maynard, Massachusetts 01754.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Graphics 11

Location: DEC manufacturing plants.

Length: 80 hours (2 weeks); 30 hours of lecture and discussion and 10 hours of laboratory per week.

Dates: April 1974–Present.

Objective: To provide an understanding of a graphics display processor and applicable programming techniques.

Instruction: Graphic instruction sets; data formats; programming; block diagrams; flow charts; equipment; maintenance procedures.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Computer Graphics (2/76).

Integrated Circuit Logic

Location: DEC manufacturing plants.

Length: 80 hours (2 weeks); 10 hours of lecture and 30 hours of laboratory per week.

Dates: June 1973–Present.

Objective: To familiarize the student with the functional operation and troubleshooting of typical integrated circuits.

Instruction: The characteristics of typical integrated circuits, including procedures and techniques of troubleshooting. Integrated circuits investigated include flip-flops, counters, shift registers, multiplexers, RAMS, ROMS, and UARTS (Prerequisite: Introduction to Logic.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Digital Circuits and 2 semester hours in Digital Laboratory (2/76).

Introduction to Logic

Location: DEC manufacturing plants.

Length: 60 hours (3 weeks); 14 hours of lecture and 6 hours of laboratory per week.

Dates: June 1973–Present.

Objective: To introduce the student to computer logic, number systems, and basic computer systems.

Instruction: Multiplexers; adders and parity circuits; flip-flops; synchronous and asynchronous logic; timing diagrams; shift registers; ring, binary, and modulo counters; BCD; excess 3 and gray codes; basic Boolean algebra; number systems. Lectures, discussion and laboratory exercises are used. (Prerequisite: Basic Electronics.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Digital Logic or Electronic Technology (2/76).

Introduction to PDP-11 Peripherals

Location: DEC manufacturing plants.

Length: 40 hours (1 week).

Dates: October 1973–Present.

Objective: To provide an understanding of computer input/output techniques, peripheral devices, and controllers.

Instruction: Programmed I/O; interrupt; data break; error checking; recording techniques; data formats. Lecture and discussions are used. (Prerequisite: PDP-11 Concepts and Programming.)

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Engineering (2/76).

PDP-8/E Central Processor Maintenance (Minicomputers)

Location: DEC manufacturing plants.

Length: 80 hours (2 weeks).

Dates: February 1973-Present.

Objective: To provide an understanding of the theory and operation of a minicomputer.

Instruction: Instruction sets; flow diagrams; logic; registers; organization; interfaces; memory; programming; troubleshooting techniques. Lecture, discussion and practical exercises are used. (Prerequisite: Integrated Circuit Logic.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Computer Engineering (2/76)

PDP-11 Concepts and Programming

Location: DEC manufacturing plants.

Length: 80 hours (2 weeks); 30 hours of lecture and 10 hours of laboratory per week.

Dates: June 1974-Present.

Objective: To provide an understanding of the function, timing, and programming of a single bus computer.

Instruction: Computer structure including block diagrams, addressing, bus synchronization, interrupts, and data breaks; introduces assembly language programming. (Prerequisite: Integrated Circuit Logic.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Organization and 2 semester hours in Assembly Language Programming (2/76).

PDP-11/05 Familiarization and Maintenance

Location: DEC manufacturing plants.

Length: 120 hours (3 weeks).

Dates: April 1973-Present.

Objective: To provide an in-depth understanding of the PDP-11/05 computer, including hardware, flow diagrams and microprogramming.

Instruction: The PDP-11/05 instruction set; bus timing; CPU status registers; I/O programming; diagnostic programming; flow diagrams; logic; troubleshooting techniques. Lectures and discussion are used. (Prerequisite: PDP-11 Concepts and Programming.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Advanced Computer Hardware (2/76).

PDP-11/40 Processor

Location: DEC manufacturing plants.

Length: 160 hours (4 weeks).

Dates: September 1972-Present.

Objective: To provide an in-depth treatment of the PDP-11/40 computer, including hardware, flow diagrams and microprogramming.

Instruction: The PDP-11/40 instruction set; bus timing; CPU status registers; I/O programming; diagnostic programming; flow diagrams; logic; troubleshooting techniques. Lectures and discussions are used. (Prerequisite: PDP-11 Concepts and Programming.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Advanced Computer Hardware (2/76).

PDP-11/45 Central Processing Unit

Location: DEC manufacturing plants.

Length: 160 hours (4 weeks).

Dates: November 1972-Present.

Objective: To provide an in-depth understanding of the PDP-11/45 computer including hardware, flow diagrams, and microprogramming.

Instruction: PDP-11/45 special instruction set; bus timing; CPU status registers; I/O programming; diagnostic programming; flow diagrams; logic; troubleshooting techniques; memory management; core memories with parity; semi-conductor memories. Lectures and discussion are used. (Prerequisite: PDP-11 Concepts and Programming.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Advanced Computer Hardware (2/76).

RJP04 Disk Drive

Location: DEC manufacturing plants.

Length: 80 hours (2 weeks).

Dates: January 1975-Present.

Objective: To provide an understanding of a moving head disk drive and its connection to a PDP-11 minicomputer.

Instruction: Data format; recording techniques; flow charts; error conditions; logic; control sequences; maintenance. Classroom instruction and laboratory exercises are used. (Prerequisite: Introduction to PDP-11 Peripherals.)

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Engineering (2/76).

RK05 Disk Drive/RK11D Disk Control

Location: DEC manufacturing plants.
Length: 56 hours (7 days).
Dates: August 1972–Present.
Objective: To provide an understanding of the operation and adjustments of the RK05 Disk Drive and the RK11D Disk Controller, and its connection to the PDP-11 Minicomputer.
Instruction: Programming and theory of operation; mechanical and electrical adjustments; interface signals; recording techniques; flow charts; error conditions; major registers. Lectures and laboratory exercises are used. (Prerequisite: Introduction to PDP-11 Peripherals.)
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Engineering (2/76).

RK8E Disk Control/RK05 Disk Drive

Location: DEC manufacturing plants.
Length: 40 hours (1 week).
Dates: January 1973–Present.
Objective: To provide an understanding of a cartridge disk drive and its connection to a PDP 8/E minicomputer.
Instruction: Data format; recording techniques; flow charts; error conditions; logic; control sequences; maintenance. Classroom instruction and laboratory exercises are used. (Prerequisite: An understanding of I/O techniques, peripheral devices, and controllers.)
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Engineering (2/76).

TM8E Tape Control/TU10 Tape Drive

Location: DEC manufacturing plants.
Length: 40 hours (1 week).
Dates: August 1974–Present.
Objective: To provide an understanding of an industry compatible tape drive and its connection to a PDP-8/E minicomputer.
Instruction: Data format; recording techniques; flow charts; error conditions; logic; control sequences; maintenance. Classroom instruction and laboratory exercises are used. (Prerequisite: An understanding of I/O techniques, peripheral devices, and controllers.)
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Engineering (2/76).

Dresser Industries, Inc.

Dresser Industries supplies technology, products, and services to industries involved in the development of energy and natural resources, including oil, gas, coal, and nuclear power.

Dresser offers over 500 developmental opportunities to its employees on a regular basis. These courses, workshops, and seminars are conducted in a variety of locations and encompass technical, product, sales, professional, supervisory, and management areas. Most of the management development activities are conducted at Dresser's Leadership Center. It provides a completely self-contained learning environment for up to 70 managers. During the span of a year, over 2,000 managers participate in one or more of the management conferences conducted at the Center. Staff from the Leadership Center also conduct courses on a selected basis at other locations in the United States and abroad.

Participants wishing to apply for credit must pass an optional final examination. Students completing the courses prior to the date of the credit recommendation may take the examinations to have the credit recommendations apply to them. The date of the student's successful completion of the examination is indicated on the student's record as the date of course completion.

Source of official student records: Management Development Program Coordinator, Dresser Leadership Center, 2801 Wycliff, Dallas, Texas 75219.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Executive One

Location: Dresser Leadership Center, Dallas, TX; other locations as necessary.
Length: 43 1/2 hours (1 week); residential; approximately 15 hours independent study.
Dates: October 1978–Present.
Objective: To strengthen mid-level managers' understanding of management concepts and their ability to apply them to managing people and operations.
Instruction: Setting individual learning and performance objectives; self-understanding; human resource management; team building; problem solving and decision making; managing by objectives; financial control; profit planning. Team exercises, selected readings, case studies, lecture and discussion, and role plays are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Business Policy or Management (10/78). NOTE: Student must complete optional examination in order to receive credit.

Executive Two

Location: Dresser Leadership Center, Dallas, TX; other locations as necessary.

Length: 41 hours (1 week); residential; approximately 12 hours independent study.

Dates: October 1978-Present.

Objective: To provide mid-level managers with experiences in decision making.

Instruction: A management simulation game with teams making high-level business decisions covering pricing, facilities planning, and production forecasting and scheduling. Principles of teamwork presented in Executive One are applied and reexamined in the course. Communication skills are practiced through a series of videotaped presentations which are evaluated and critiqued. Case studies, films, and selected readings are used. (Prerequisite: Executive One.)

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Business Policy or Managerial Decision Making (10/78). NOTE: Student must complete original examination in order to receive credit.

Management Development One

Location: Dresser Leadership Center, Dallas, TX; other locations as necessary.

Length: 40 hours (1 week); residential; approximately 14 hours independent study.

Dates: January 1979-Present.

Objectives: To provide first-level managers with a working knowledge of the principles and functions of management, and their application.

Instruction: History of management; functions of management; motivational theory; human resource management; communications; teamwork. Case studies, team exercises, role play, and films augment classroom discussions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (10/78). NOTE: Students must complete optional examination in order to receive credit.

Management Development Two

Location: Dresser Leadership Center, Dallas, TX; other locations as necessary.

Length: 41 hours (1 week); residential.

Dates: January 1979-Present.

Objective: To provide first-level managers with principles and methods of developing and maintaining teamwork essential to effective work production.

Instruction: Development of team effectiveness through establishment of personnel criteria; team problem-solving and methods improvement; understanding of values as they affect individual behavior and teamwork; problem-solving and goal setting through teamwork; impact of equal employment opportunity laws on the manager. Case studies, group exercises, lecture, and discussion are used. (Prerequisite: Management Development One.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Human Relations, Management, or Organizational Behavior (10/78). NOTE: Students must complete optional examination in order to receive credit.

Professional Selling Methods

Location: Dresser Leadership Center, Dallas, TX.

Length: 43 hours (4 1/2 days); residential.

Dates: October 1978-Present.

Objective: To strengthen the experienced salesperson's knowledge, skills, and attitudes in selling techniques.

Instruction: Elements of the selling process; product analysis; answering objections; time utilization; territory and account management. Videotaped sales simulations are critiqued and evaluated. Lecture, discussion, and team exercises are also used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Salesmanship (10/78). NOTE: Student must complete optional examination in order to receive credit.

Electrical Workers Local 26 of the International Brotherhood of Electrical Workers and the Washington, D.C. Chapter of the National Electrical Contractors Association, Joint School

Electrical Workers, Local 26 represents 1900 workers performing electrical work in the Washington, D.C. Metropolitan Area. They are classified as inside wiremen and are responsible for the final delivery of current at consumer's outlets. Their four years of apprenticeship training, which includes 180 hours of classroom instruction and 2000 hours of on-the-job training each year, is administered jointly by Local 26 and the Washington, D.C. Chapter of the National Electrical Contractors Association. The training enables each worker to read blueprints, to work with high voltages

safely, and to install, repair, and service complicated electrical equipment and controls.

To receive journeyman status all four years of the program must be completed. Each year approximately 100 members of Local 26 graduate from the Electrician Apprentice program.

Source of official student records: Director, Electrical Workers Joint Apprenticeship Committee, Local 26, I.B.E.W., 6200 Kansas Avenue, N.E., Washington, D.C. 20011.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupone Circle, Washington, D.C. 20036.

Electrician Apprentice (Inside)

Location: International Brotherhood of Electrical Workers Local 26 and the National Electrical Contractors Association Joint School, Washington, D.C. Job sites in the Washington, D.C. area.

Length: Four years.

Dates: January 1971-Present.

Objective: To prepare apprentices for journeyman status in the electrical construction (inside) industry.

Instruction:

First Year: Principles of direct current, alternating current, and electromagnetism; knowledge and application of National Electrical Code requirements pertaining to cable, conduit, and grounding; operation of electric motors; Ohm's law, series circuits, parallel circuits, magnetism, and motors; safety procedures and first aid resuscitation; reading and sketching of elevation views and plot plans including symbols and scales used; materials used in the electrical construction industry, such as wires, cables, conduit, conductors, insulation, joints, fasteners and fuses; under supervision, installation of electrical apparatus such as cables, conduit, tubing, outlet boxes, outlets, fixtures, and securing and holding devices at various job sites; orientation to the apprenticeship form of education and training, the electrical industry, the history of the electrical industry, the International Brotherhood of Electrical Workers, local union bylaws, and the history of the operation and contribution of the National Electrical Contractors Association.

Second Year: Use and installation of electric meters; National Electrical Code requirements relating to grounding conductors, branch circuits and transformers; use of algebra and trigonometry in making mathematical calculations; types, construction, winding ratios, functions, and classifications of transformers; operating principles and functions of incandescent lamps, alarms, and refrigeration and air conditioning components; capacitance, inductance, reactance, and RLC circuits; electric motor mechanical drive and load connections; use of architect's blueprint and layouts; use and care of tools of the industry; circuit testing; first aid procedures, including those for electric shock victims; safety rules and practices for the electrical construction industry; apprentices perform more complex work tasks through a series of six-month job rotations.

Third Year: National Electrical Code requirements for capacitors, electric motors, hazardous locations, and Class I, II, and III installations; use of blueprints pertaining to structural details, floor plan specifications, floor ducts, service entrances, circuits and riser circuits; electrical wiring and distribution systems; electrical theory pertaining to alternating currents, alternating current motors and transformers, power factor and correction, and primary and secondary connections; analysis of malfunctions and repair of remote controls, protection devices, and alternating current motor controls. Apprentices apply knowledge by assuming increasingly complex responsibilities and performing increasingly complex tasks in work settings that are rotated each six months.

Fourth Year: Knowledge and application of National Electrical Code requirements pertaining to wire closets, junction boxes, and stairway and emergency lighting; metric system conversions; application of rules to radiation exposure, protection, reaction, and other features of nuclear safety; transistor principles and circuits and vacuum tube fundamentals; use of electronic testing equipment; basic rectifier circuits, amplifier circuits, special circuit applications, and transistor use; static control fundamentals, including concepts, circuits, analyses, and applications; alternating current applications in industrial electricity; fundamentals of temperature, pressure, and flow; instrumentation systems; installation and testing of electrical construction materials; use of electrical construction equipment.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 2 semester hours in Basic Electricity, 1 in National Electrical Code, 1 in Blueprint Reading and Sketching, 1 in Orientation to Electrical Construction, 1 in Electrical Construction Materials and Methods, and 1 in field experience in Electrical Construction, for a total of 7 semester hours (9/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Electricity, 3 in Electrical Construction Materials and Methods, 2 in field experience in Electrical Construction, 2 in National Electrical Code, 2 in Technical Mathematics, 2 in Blueprint Reading and Sketching, 1 in Orientation to Electrical Construction, 1 in Safety and First Aid, and 1 in Shop Practices, for a total of 18 semester hours (9/77).

Credit recommendation, *Third Year:* In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Electricity, 4 in Electrical Construction Materials and Methods, 3 in National Electrical Code, 3 in Blueprint Reading and Sketching, 3 in field experience in Electrical Construction, 2 in Technical Mathematics, 2 in Industrial Electricity, 1 in Motor Controls, 1 in Orientation to Electrical Construction, 1 in Safety and First Aid, and 1 in Shop Practices, for a total of 25 semester hours (9/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 5 semester hours in Electrical Construction Materials and Methods, 4 in Basic Electricity, 4 in National Electrical Code, 4 in Blueprint Reading and Sketching, 4 in field experience in Elec-

trical Construction, 3 in Industrial Electricity, 2 in Safety and First Aid, 2 in Motor Controls, 2 in Technical Mathematics, 2 in Shop Practices, 2 in Electronics, 1 in Instrumentation, and 1 in Orientation to Electrical Construction, for a total of 36 semester hours (9/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Far West Services, Inc.

Far West Services, Inc., headquartered in Irvine, California, is one of the largest wholly owned food service companies in the United States. The two product lines offered are coffee shops and dinner houses. Far West Services, Inc. is a national company with 170 locations in 14 states and employs over 12,000 people.

Far West Services' training program is designed for all personnel who enter the management ranks of the organization. Attendees come from all over the country and the sessions prepare a student to become a relief manager in a local operation.

Source of official student records: Assistant Vice President, Management Development, Far West Services, Inc., 2701 Alton Avenue, Irvine, California 92713.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Restaurant Management Training Program

Location: Far West Services, Incorporated, Irvine, California.

Length: *Part 1:* 675 hours structured field work (3 1/2 months); 16 hours classroom (2 days). *Part 2:* 64 hours classroom instruction (8 1/2 days).

Dates: December 1977–Present.

Objective: To provide an overview of the operation of a restaurant, including managerial knowledge and skills.

Instruction: *Part 1:* Internship/field experience in restaurant operation: a structured field experience during which the student manager is introduced to the practical aspects of restaurant operation. This includes the opportunity to practice job skills in stewarding, food preparation, beverage service, customer service, hosting, and restaurant accounting. Individual students are rotated through coffee shop and dinner house departments where training is provided by designated staff and supervised by a company area supervisor. This internship emphasizes establishing and reviewing standards of operation, sanitation, food quality, and service. Students are evaluated for knowledge and job performance at the conclusion of each of the program training phases. A course workbook, films, and recommended reading accompany the field experience, which is concluded with an intensive two-day follow-up workshop session in a classroom setting. *Part 2:* Management practices and theory from the point of view of industrial relations: deals with the setting of management objectives, labor relations, employee appraisal, training and motivation, customer relations, communications, and the control of time and cost. This part is conducted entirely in a classroom setting through lecture, extensive group problem-solving sessions, and discussion supported by audiovisual aids.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 4 semester hours in Food Service Management (12/77). *Part 2:* In the lower division baccalauareate/associate degree category, 2 semester hours in Business Administration or Food Service Management (12/77). NOTE: To be eligilble for credit, student must successfully complete optional examination.

Federal Aviation Administration

The Federal Aviation Administration (FAA), a component of the United States Department of Transportation, serves primarily to insure aviation safety, promote air commerce, and support national security through management of the National Airspace System. Training programs are offered to employees in each of the 11 FAA regions in the United States.

Federal Aviation Administration Academy

The FAA Academy was established in the summer of 1959 to administer the Agency's technical training programs. FAA personnel must be familiar with current aviation concepts, knowledge, and skills, and must also acquire advanced knowledge and skills in order to operate and maintain new equipment as it is developed. Training is provided for air traffic control specialists, engineers, technicians, and pilots. In addition, a wide range of instructor development courses are offered to insure the efficiency and effectiveness of Academy technical instructors.

The courses listed below are part of the training program of the Instructor Resources Section, a division of the Training Methods and Operations Branch, FAA Academy. Courses are taught at the FAA Academy in Oklahoma City and at various FAA regional locations. Professional education specialists administer instructor development pro-

grams for Academy instructors and supervisors, regional staffs, Department of Transportation (DOT) personnel, and international personnel. In addition, they provide a wide range of educational consulting services which include follow-up instructor evaluations of the Academy's technical instructor staff.

Source of official student records: Registrar Unit, AAC-911A, Federal Aviation Administration Academy, Aeronautical Center, P.O. Box 25082, 6500 S. MacArthur, Oklahoma City, Oklahoma 73125.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Basic Instructor Training (10510)

Location: FAA Academy, Oklahoma City, OK.
Length: 120 hours (3 weeks); residential.
Dates: June 1971–Present.
Objective: To develop the new instructor's understanding of and competency in learning theory, training methods, and classroom management.
Instruction: Classroom instruction includes learning theory, communications, teaching methods, lesson planning, audio-visual materials, and testing evaluation. Methodology includes lecture, class discussion, individualized instruction, and audio-visual presentations. Students present five teaching assignments varying in length from a five-minute briefing to a fifty-minute complete lesson.
Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Behavioral Sciences or Educational Methods (8/78). NOTE: Credit should not be granted both for this course and for Facility Instructor Training (10501).

Curriculum Development (10512)

Location: FAA Academy, Oklahoma City, OK.
Length: 80 hours (2 weeks); residential.
Dates: November 1972–Present.
Objective: To improve the experienced instructor's competency in curriculum development.
Instructor: Methods used in the development of a course rationale, general course design, curriculum guide, standardized lesson plans, and validation procedures. Methodology includes lecture, discussion, audio-visual presentations, and laboratory activities. (Prerequisites: Basic Instructor Training [10510] or Training for Advanced Instructors [10511].)
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Curriculum (8/78).

Facility Instructor Training (10501)

Location: FAA Academy, Oklahoma City, OK; FAA Field Facilities.
Length: 100 hours (2 weeks, 3 days); residential.
Dates: June 1977–Present.
Objective: To develop the new instructor's understanding of and competency in learning theory, training methods, and classroom management.
Instruction: Factors that affect learning, planning and conducting on-the-job training, training methods, developing and using training aids, and classroom management. Also includes lesson plan development, training aid preparation, and developing supporting materials. Methodology includes lecture, discussion, and student participation and presentations.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Behavioral Sciences or Educational Methods (8/78). NOTE: Credit should not be granted both for this course and for Basic Instructor Training (8/78).

Instructional Materials Development (10515)

Location: FAA Academy, Oklahoma City, OK.
Length: 120 hours (3 weeks); residential.
Dates: March 1973–Present.
Objective: To improve the experienced instructor's competency in the development of course material.
Instruction: Development of lectures, demonstration performances, guidance packages, audio-visual presentations, and self-instructional materials. The student is required to develop learning objectives, plans, teaching-learning activities, confirmations, criterion and enabling tests, and to edit instructional programs. The course is a self-instructional (programmed) course conducted with guidance of and evaluated by an educational specialist. (Prerequisites: Basic Instructor Training [10510] or Facility Instructor Training [10501].)
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Curriculum or in Programmed Instruction (8/78).

Instructional Testing (10513)

Location: FAA Academy, Oklahoma City, OK.
Length: 80 hours (2 weeks); residential.
Dates: November 1976–Present.
Objective: To improve the experienced instructor's competency in test construction and administration, particularly criterion-referenced assessment.
Instruction: Planning a systematic criterion-referenced evaluation program; construction of verbal and motor performance test items; item and test analysis; administrative procedures. Methodology includes lecture and class discussion and emphasizes laboratory activities. (Prerequi-

sites: Basic Instructor Training [10510] or Training for Advanced Instructors [10511].)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Evaluation and Measurement (8/78).

Training for Advanced Instructors (10511)

Location: FAA Academy, Oklahoma City, OK.

Length: 40 hours (1 week); residential.

Dates: February 1974–Present.

Objective: To improve the experienced instructor's competency in teaching, classroom management, and interpersonal relationships.

Instruction: Accountability for instruction; group interaction; managing the learning environment; student counseling; interactive instruction techniques; assessing and improving individual instructional effectiveness. Methodology includes lecture, discussion, team activities, case study, and role playing.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Counseling, Human Relations, or Psychology (8/78).

Federal Aviation Administration Management Training School

The FAA Management Training School was established in the spring of 1971 chiefly as a center for training all FAA managers, and supervisors. Some staff personnel also attend the center. Emphasis is placed on the knowledge, skills, and concepts that managers and supervisors must acquire in order to do their jobs effectively and efficiently. Programs are conducted at a residential facility located on the campus of Cameron University, Lawton, Oklahoma. All FAA managers and supervisors are required to attend one of the two initial courses offered. Thereafter, continuation training is provided annually through one of twelve continuation courses. Instruction is provided under contract with the University of Oklahoma by a professional instructional staff.

Source of official student records: FAA Management Training School, Attn: Student Records, Cameron University, Lawton, Oklahoma 73501.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Constructive Discipline (01203)

Location: FAA Management Training School; Lawton, OK.

Length: 35 hours (1 week); residential.

Dates: October 1975–Present.

Objective: To strengthen the ability of managers to maintain organizational discipline in a positive manner.

Instruction: Role and forms of discipline; means of achieving constructive discipline; appropriate use of corrective and disciplinary actions; the FAA disciplinary systems. Lecture, discussion, case studies, and role playing are used. (Prerequisite: Supervisory Initial Course or Managerial Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management or Public Administration (5/76).

Developing Human Relations Skills

Location: FAA Management Training School; Lawton, OK.

Length: 67 hours (2 weeks); residential.

Dates: December 1976–Present.

Objective: To provide employees with an understanding of the principles and opportunity to practice skills needed for effective conduct of human relations in the organization.

Instruction: Covers a broad spectrum of knowledge and skills required for effective human relations. Topics include human understanding, self-analysis, listening, stress, group relations, and interpersonal relations. Methods used stress individual and group exercises, practice presentation, and role playing.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in General Management or Social Sciences (9/77).

Equal Employment Opportunity Counselor Effectiveness Training (01505)

Location: FAA Management Training School; Lawton, OK.

Length: 35 hours (1 week); residential.

Dates: February 1974–Present.

Objective: To improve the effectiveness of the Equal Employment Opportunity counselor's implementation of Executive Order 11478.

Instruction: Equal Employment Opportunity programs and their relationship to FAA organization and programs; human behavior in counseling; effective interpersonal communication to influence behavior; handling of discrimination complaint procedures. Lecture, discussion, role playing, and case studies are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Public Administration (5/76).

Labor Relations for Management (01202)

Location: FAA Management Training School; Lawton, OK.

Length: 35 hours (1 week); residential.

Dates: November 1973–Present.

Objective: To provide line managers with an in-depth understanding of labor contract administration consistent with Executive Order 11491 and interpretations, and with FAA labor policy and philosophy.

Instruction: Public sector labor-management-union relations; Federal Code of Fair Labor Practices; unfair labor practices; contract negotiations; grievance systems; arbitration. Lecture, discussion, and classroom exercises are used. (Prerequisite: Supervisory Initial Course or Managerial Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Labor Relations (5/76).

Management for Program Managers (01509)

Location: FAA Management Training School; Lawton, OK.

Length: 75 hours (2 weeks); residential.

Dates: August 1974–Present.

Objective: To improve the managerial capabilities of staff personnel who manage programs rather than organizations.

Instruction: Systems and organization theory; management methods for program management; establishing objectives; human factors; problem analysis; decision making. Lectures, discussion, case studies, and role playing are used.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Management or Public Administration (5/76). NOTE: The coverage of this course overlaps to a large extent with the Managerial Initial Course. Credit should not be granted for both courses.

Managerial Effectiveness (01302)

Location: FAA Management Training School; Lawton, OK.

Length: 35 hours (1 week); residential.

Dates: December 1972–November 1976.

Objective: To improve the manager's capabilities in a goals-oriented approach to planning and interpersonal relationships.

Instruction: Management philosophy; organizational theory; communications; group processes; leadership styles. Methodology includes lecture, discussion, role playing, and multimedia instruction. (Prerequisite: Managerial Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management or Public Administration (5/76).

Managerial Initial Course (01300)

Location: FAA Management Training School; Lawton, OK.

Length: 75 hours (2 weeks); residential; includes 42 hours of lecture/discussion and 33 hours of classroom exercises.

Dates: July 1975–Present.

Objective: To provide managers with the concepts and applications of a systems approach to results-based management.

Instruction: Systems; organization theory; communications; group behavior; management by objectives; evaluation and control; decision making; integrating the individual and the organization. Emphasis is on the functions of planning and organizing. Methodology includes lecture, discussion, case studies, and role playing. (Prerequisite: Supervisory Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Management or Public Administration (5/76). NOTE: This course overlaps to a large extent with Management for Program Managers. Credit should not be granted for both courses.

Performance Improvement and Employee Appraisal (01201)

Location: FAA Management Training School; Lawton, OK.

Length 35 hours (1 week); residential.

Dates: August 1972–Present.

Objective: To improve the supervisor's understanding and application of FAA approaches to employee performance improvement and appraisal.

Instruction: Performance standards; human relations and communications; employee development programs; the performance appraisal process; counseling. Lectures, discussions, and classroom exercises are used. (Prerequisite: Supervisory Initial Course or Managerial Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management or Public Administration (5/76).

Resource Management (01303)

Location: FAA Management Training School; Lawton, OK.

Length: 59 hours (7 1/2 days); residential.

Dates: March 1976–Present.

Objective: To provide the manager with the financial knowledge and skills to manage human, physical and technical resources effectively.

Instruction: The federal budgeting process; public laws and policies; development of objectives; financial forecasting; setting of standards; cost estimating; scheduling and controlling. Lectures, discussion, and simulations are used. (Prerequisite: Supervisory Initial Course or Managerial Initial Course.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Public Administration (5/76).

Staff Specialist

Location: FAA Management Training School; Lawton, OK.

Length: 35 hours (1 week); residential.

Dates: June 1974–Present.

Objective: To improve the performance of staff personnel in accomplishing studies and preparing reports.

Instruction: Staff functions in problem analysis and decision making; human relations and communications in conducting, preparing, and presenting staff studies. Lecture, discussion, case problems, and class exercises are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management or Public Administration (5/76).

Supervisory Initial Course (01200)

Location: FAA Management Training School; Lawton, OK.

Length: 107 hours (3 weeks), residential; includes 47 hours of lecture/discussion and 60 hours of classroom exercises.

Dates: July 1975–Present.

Objective: To introduce supervisory personnel to the fundamentals of first-line supervision, with emphasis on human relations.

Instruction: Management systems and organizational structures with emphasis on the functions of direction and control; human behavior; employee performance; conduct and discipline; manpower programs; labor-management relations; equal employment opportunity practices. Methodology includes lecture, discussion, case studies, and role playing.

Credit recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in Supervisory Management (5/76).

Florida School of Banking

Sponsored by the Florida Bankers' Association, the Florida School of Banking enables bank personnel at the supervisory and junior officer level to increase their knowledge about the banking industry and the economy. It is intended to be preparation at the advanced schools of banking.

Students must attend three one-week summer sessions at the University of Florida and complete final examinations and extension problems to graduate. For evaluation purposes, courses that are offered throughout the three years of the program are grouped together. Therefore, students requesting credit must have completed the entire program.

Source of official student records: Registrar, Florida School of Banking, Florida Bankers' Association, P.O. Box 6847, Orlando, Florida 32853.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

(Accounting)

1. **Accounting I**
2. **Accounting II**
3. **Bank Accounting and Auditing**
4. **Bank Management Simulation Game**

Location: University of Florida, Gainesville, FL.

Length: 1. 9 1/2 hours.
2. 9 1/2 hours.
3. 4 1/2 hours.
4. 9 1/2 hours.
Total 33 hours and 80–130 hours independent study.

Dates: August 1970–Present.

Objective: To provide the student with an understanding of and ability to apply accounting principles.

Instruction: Accounting objectives; measurement of income and preparation of financial statements; the accounting cycle; adjusting entries; preparation of financial statements and discussion of their interrelationships; statement interpretation, analysis, and application; application of accounting systems and the auditing function. In the Bank Simulation Game, students work in groups to make decisions and determine policy in the operation of a commercial bank. Accounting reports and their interpretations are used to make decisions and formulate strategies. Lecture, discussion, and home study problems are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (8/78).

(Commercial Bank Management)

1. **Fiduciary Services**
2. **Bank Credit**
3. **Uniform Commercial Code**
4. **Marketing**
5. **Communications**
6. **Personnel Management**
7. **Introduction to Data Processing**
8. **Bank Management Simulation Game**

Location: University of Florida, Gainesville, FL.

Length: 1. 1 1/2 hours.
2. 17 hours.
3. 3 hours.
4. 1 1/2 hours.
5. 1 1/2 hours.
6. 3 hours.
7. 3 hours.
8. 9 1/2 hours.

Total 24 hours and 50-65 hours independent study.

Dates: August 1970-Present.

Objective: To provide an analysis of the operations and management of commercial banks.

Instruction: The development of a credit policy; organization for credit administration; principles of credit analysis; types of loans; the trust and fiduciary function; commercial bank business development and marketing; community relations; the communications process; motivation and supervision of personnel; the application of the Uniform Commercial Code to commercial bank operations; computer applications and system selection. Bank Simulation Game enables students to formulate and test bank policy decisions and strategies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Bank Management (8/78).

(Macroeconomics and Introduction to Money and Banking)

1. **Money and Banking**
2. **Sources and Uses of Economic Data**
3. **Regulation**
4. **Federal Reserve System**
5. **Risk Management**
6. **Investments**
7. **Money and Capital Markets**

Location: University of Florida, Gainesville, FL.

Length: 1. 10 1/2 hours.
2. 3 hours.
3. 1 1/2 hours.
4. 4 1/2 hours.
5. 6 hours.
6. 4 1/2 hours.
7. 6 hours.

Total 36 hours and 53-85 hours independent study.

Dates: August 1970-Present.

Objective: To provide an understanding of the American economy, business cycles, and the influence of the federal reserve system on the financial markets.

Instruction: The concept of money and the money creation process; the economic role of commercial banks; review of the Federal Reserve System; monetary policy instruments; regulation of financial institutions; determinants of the term structure of interest rates; flow of funds analysis; availability of investment funds; theories of bank asset and liability management; liquidity analysis; the use of economic data, its measurement and reliability; basic statistical analysis; impact of bank regulation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Economics (8/78).

Fluor Corporation

The Fluor Corporation is an international firm specializing in services to natural resources industries throughout the world.

Fluor conducts a wide range of training in technical and non-technical, management and non-management subjects.

The Management Development and Training Group offers programs that bring supervisory, management, and communications concepts to an employee population primarily involved in technological areas.

Programs listed below have been grouped into blocks because employees take these as a unit over a period of time.

Source of official student records: Director, Management Development and Training, Fluor Corporation, 3333 Michelson Drive, Irvine, California 92715.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach 90802.

1. **Advanced Management Practices (001)**
2. **Successful Negotiating Techniques (013)**

Location: Fluor Engineers and Constructors, Incorporated, Irvine, CA.

Length: 1. 18 hours (3 weeks).
2. 18 hours (2 days).

Dates: September 1977-Present.

Objective: To develop managerial knowledge and skills for those who are in middle management or who aspire to middle management.

Instruction: Major topics and skills for effective managerial performance, including theories of motivation, leadership and its development, decision making, and Management By Objectives (MBO). Special focus is on development of skills in negotiation strategies. The course emphasizes student participation and discussion in a workshop format, along with lectures by the instructor and video feedback.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (9/77). NOTE: Both courses must be successfully completed in order to receive credit.

(Business Communications)
1. Effective Communication Practices (018)
2. Effective Business Writing (004)
3. Oral Presentation of Ideas (008)

Location: Fluor Engineers and Constructors, Incorporated, Irvine, CA.

Length: 1. 6 hours (1 session).
2. 12 hours (3 weeks).
3. 21 hours (7 weeks).

Dates: September 1977–Present.

Objective: To develop an understanding of and skills in interpersonal communication, formal business writing, and oral presentations.

Instruction: A comprehensive course focusing on techniques of effective business writing (including the use of word processing equipment), oral presentations, and interpersonal communication. The course stresses the following skills: listening, providing accurate feedback, diagnosing communication problems, understanding others, and making presentations. Participants make presentations, lead discussions, write letters and memos, and identify communication problems in a workshop format, along with lectures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division category, 3 semester hours in Business Administration, Business Communications, or Public Administration (9/77). NOTE: All three courses must be successfully completed in order to receive credit.

Business Meeting Leadership (002)
(Formerly Communications in Business [002])

Location: Fluor Engineers and Constructors, Incorporated, Irvine, CA.

Length: 18 hours (3 weeks).

Dates: September 1977–Present.

Objective: To develop an appreciation for and skill in communication techniques, both oral and written.

Instruction: Development of skills in presentation of ideas and reports, including the use of instructional aids. Students learn to design and run effective meetings, focusing on goal-setting, agenda building, listening, and providing feedback. Methodology emphasizes the design and conduct of meetings by students, with video feedback.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (9/77).

Dynamics of Organizational Leadership (016)

Location: Fluor Engineers and Constructors, Incorporated, Irvine, CA.

Length: 18 hours (3 weeks).

Dates: September 1977–Present.

Objective: To develop an understanding of how work groups function and how to improve group performance.

Instruction: The relationship between the leader and group performance; effective teamwork; delegation; counseling of employees. Methodology emphasizes the workshop approach supported by discussion and lecture.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (9/77).

(Introduction to Management)
1. Effective Supervision Techniques (006)
2. Performance Management and Counseling (010)

Location: Fluor Engineers and Constructors, Incorporated, Irvine, CA.

Length: 1. 24 hours (4 weeks).
2. 9 hours (1.5 days).

Dates: September 1977–Present.

Objective: To provide a conceptual framework for understanding the supervisor's job.

Instruction: An introduction to concepts of work assignments, direction, evaluation, and the transition into the leadership role. The course develops supervisory skills, leadership, interpersonal communication, employee motivation, and problem-solving techniques. Methodology includes lecture, discussion, case studies, decision games, and audio-visual techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Public Administration (9/77). NOTE: Both courses must be successfully completed in order to receive credit.

General Dynamics, Pomona Division

General Dynamics, with corporate headquarters in St. Louis, is a major developer and builder of weapon systems. The various divisions also produce commercial aircraft, communication equipment, and minerals.

The Pomona Division of General Dynamics was established in 1952 as a complete development center with facilities for research, design, evaluation, and production of tactical defense missile systems.

Pomona has placed particular emphasis on its creative research and advanced development capabilities. In order to help keep its professional staff current with the state-of-the-art, the Pomona Division offers a selection of semester-length, in-plant courses to qualified employees. These courses are designed to meet the needs of the tactical weapons systems industry.

Source of official student records: Educational Services, General Dynamics, Pomona Division, P.O. Box 2507, Pomona, CA 91766.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Control Techniques

Location: General Dynamics, Pomona, CA.
Length: 39 hours (13 weeks).
Dates: December 1977-Present.
Objective: To develop an understanding of the classical techniques used in the analysis and design of control systems.
Instruction: A presentation of the basic analytical techniques used in control system analysis and synthesis including control system description and specification; differential equations; Laplace transforms; block diagrams and signal flow techniques; Bode and Nyquist criteria; Root Locus. Examples emphasize missile guidance and control problems. Methodology includes lectures and problem sets.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering (12/77).

Guidance and Control of Tactical Missiles

Location: General Dynamics, Pomona, CA.
Length: 30 hours (12 weeks).
Dates: December 1977-Present.
Objective: To develop an understanding of the design principles of guidance and control for tactical guided missiles.
Instruction: An intensive presentation dealing with the design of pitch, yaw, and roll autopilots as well as guidance and control systems. Techniques are developed for designing systems and analyzing their performance by means of transient and frequency-domain methods of linear and nonlinear control synthesis. The course is taught through lectures and solutions of practical missile design problems. It includes a comprehensive examination containing design problems and requiring considerable outside preparation.
Credit recommendation: In the graduate degree category, 3 semester hours in Engineering (12/77).

Infrared and Optical Techniques and Applications

Location: General Dynamics, Pomona, CA.
Length: 42 hours (14 weeks).
Dates: December 1977-Present.
Objective: To introduce the phenomena and practices of electro-optics, with particular emphasis upon current infrared applications.
Instruction: Principles of infrared generation and detection; infrared photography; optical systems; infrared guided weapons and techniques; spectrophotometer and its application to materials investigation and analysis. Methodology includes lecture, laboratory and demonstrations of infrared equipment.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering Technology (12/77).

Introduction to Microcomputers and Microprocessors

Location: General Dynamics, Pomona, CA.
Length: 30 hours (10 weeks).
Dates: December 1977-Present.
Objective: To provide an understanding of basic architectures and machine languages of microprocessors and microcomputers.
Instruction: A presentation in detail of the architecture and machine instructions of a typical microcomputer including two popular microprocessors. Machine language programming and program debugging techniques are emphasized. Methodology includes lectures and problem sets.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Sciences or Engineering (12/77).

Introduction to Statistics

Location: General Dynamics, Pomona, CA.
Length: 54 hours (18 weeks).
Dates: December 1977-Present.
Objective: To provide the student with an introduction to elementary statistics including basic techniques of statis-

tical analysis and the use of discrete and continuous random variables to describe physical problems.

Instruction: A non-calculus-based course in statistics covering elementary set theory, the elements of probability theory, random variables, mathematical expectation, discrete and continuous probability distributions, sampling theory, correlation, regression, and analysis of variance. The course uses examples from quality control and statistical test design. Methodology emphasizes lectures supported by discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology or Statistics (12/77).

Radar System Fundamentals

Location: General Dynamics, Pomona, CA.
Length: 30 hours (12 weeks).
Dates: December 1977–Present.
Objective: To introduce radar components and concepts of radar systems.

Introduction: The radar equation; CW and FMCW radar systems; pulse and pulse Doppler systems; tracking radar systems; detection of radar signals in noise; transmitters and transmission lines; antennas; system considerations. Applications of radar to missile guidance and control are emphasized. Methodology is a lecture format.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering Technology (12/77).

The General Electric Company

The General Electric Company (GE) is primarily engaged in developing, manufacturing, and marketing a wide variety of products used in the generation, transmission, distribution, control, and utilization of electricity. As a result of corporate research and development, GE has also developed businesses in such areas as communications, plastics, medical systems, aircraft engines, and ship propulsion systems. In 1974, domestic employment was approximately 307,000 persons in 47 GE divisions throughout the country.

GE offers many courses to its employees to help accelerate their professional and managerial career development. Whether the courses are single offerings, or are part of an integrated program of study, they are all designed to help individual employees perform more effectively on current jobs, prepare for new jobs, or gain greater personal satisfaction from their work.

Research and Engineering Professional Development Program

The courses listed below are part of the Research and Engineering Professional Development Program conducted by General Electric's Re-Entry and Environmental Systems Division (RESD) at its offices in Philadelphia and neighboring locations. The courses are offered to employees of the division and are supervised and taught by qualified staff of RESD. Included below are courses of the centrally administered General Electric Financial Management Program (FMP). These courses are highly intensive and selective in admissions.

Source of official student records: Technical Director, Professional Development and Education Program, General Electric Company, Re-Entry and Environmental Systems Division, 3198 Chestnut Street, Philadelphia, Pa. 19101.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Advanced Programming Techniques (C-235) (Advanced Computer Techniques)

Location: Philadelphia and Valley Forge, PA.
Length: 30 hours (15 weeks).
Dates: February 1977–Present.
Objective: To provide advanced instruction to the efficient use of hardware and software to students familiar with basic programming.

Instruction: Text editing; time sharing; media conversion; magnetic tape contrasted with disc files; plotting; computer costs. Lecture and computer problem-solving are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Sciences (1/77).

An Introduction to Finance (MT-202) (Survey of Accounting and Financial Techniques)

Location: Philadelphia, PA.
Length: 26 hours (13 weeks).
Dates: February 1977–Present.
Objective: To familiarize employees with the basic tools of accounting and financial management.

Instruction: Basic accounting theory; cost accounting concepts; cost control; federal and state taxation; cash flow; budgeting government contracts; information systems. Method includes lecture, classroom discussion, and exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (1/77). NOTE: This recommendation applies to non-business curricula.

Auditing (FMP-301)

Location: Philadelphia, PA.
Length: 26 hours (13 weeks).
Dates: January 1969–Present.
Objective: To enable participants to audit and evaluate accounting and management systems.
Instruction: Principles and practices of auditing as applied to cash, receivables, inventory, plant and equipment, liabilities, net worth, and operations. Includes review of internal control systems. Involves lecture, discussion, and homework projects.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (1/77).

Basic Electronics (EE-115)

Location: Philadelphia, PA.
Length: 24 hours (12 weeks).
Dates: September 1977–Present.
Objective: To provide students with a basic understanding of the laws of electricity and magnetism, and to prepare the student for a more detailed course in the fundamentals of circuit design.
Instruction: Physics associated with electrical technology; electrostatics and DC circuitry; electromagnetic effects; the theory of AC circuitry; application of electrical laws and principles. Includes detailed treatment of the functions and performance characteristics of common and state-of-the-art electronic devices. More advanced topics, such as noise, transient effects, and instrumentation, are introduced and explained. Methodology includes lecture and laboratory.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electronics (1/77). NOTE: Recommendation does not apply to science and engineering majors.

Calculus I (AM-175)

Location: Philadelphia, PA.
Length: 30 hours (15 weeks).
Dates: September 1976–Present.
Objective: To provide a standard first-semester calculus course that would be useful to technicians pursuing undergraduate degrees.
Instruction: Algebra; functions; limits; derivations; differentiation; application of the derivative; the definite integral; infinite limits and limits of sequences; exponential functions; logarithmic functions; trigonometric functions. Employs lecture and problem solving as homework and classwork.
Credit recommendation: In the lower division baccalaureate/associate degree catgory, 3 semester hours in Mathematics (1/77). NOTE: Recommendation does not apply to science and engineering majors.

Calculus II (AM-275)

Location: Philadelphia, PA.
Length: 30 hours (15 weeks).
Dates: September 1976–Present.
Objective: To provide a standard second-semester calculus course that would be useful to technicians pursuing undergraduate degrees.
Instruction: Inverse functions, finding artiderivatives; the definite integral; paths; infinite sequences and series; power series and polynominal approximation; vectors in the plane; functions of two variables. Employs lecture and problem solving as homework and classwork.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Mathematics (1/77). NOTE: Recommendation does not apply to science and engineering majors.

College Math I (AM-172)
College Math II (AM-272)

Location: Philadelphia, PA.
Length: *Version 1:* 30 hours (15 weeks).
Version 2: 45 hours (15 weeks).
Dates: *Version 1:* September 1975–April 1978.
Version 2: May 1978–Present.
Objective: To provide a basic college freshman math course that would be useful to technicians and others pursuing an undergraduate degree.
Instruction: *Version 1:* Set theory; logic; number theory; algebra; geometry; trigonometry (2 hours only); matrices; probability and statistics; introduction to calculus and statistics. Method includes lecture and classroom and homework problem solving. *Version 2:* Set theory; logic; number systems; algebra, probability; statistics; matrices; game theory; computer applications; trigonometry; polynomials; factoring; quadratic equations; irrational equations; logarithms; calculus. Method includes lecture and classroom and homework problem solving.
Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 3 semester hours in Mathematics (1/77). NOTE: Recommendation does not apply to science and engineering majors. *Version 2:* In the lower division baccalaureate/associate degree category, 6 semester hours in Mathematics (5/78). NOTE: Recommendation does not apply to science and engineering majors.

Computer-aided Circuit Design and Analysis (EE-117)

Location: Philadelphia and Valley Forge, PA.
Length: 36 hours (12 weeks).
Dates: September 1975–Present.
Objective: To provide students with a working knowledge and understanding of the techniques of computer-aided circuit analysis.

Instruction: The response of semiconductors, integrated circuits, and discrete circuits to various frequency and time-varying stimuli are evaluated. Method for describing the behavior of active nonlinear elements to the computer are explained and compared. Comparision between expected theoretical analysis and computed results are made. Limited studies of optimization and sensitivity analysis are covered. Methodology includes lecture, discussion, and laboratory.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Electrical Engineering as a professional elective (1/77).

Designing with Microprocessors (EE-213)

Location: Philadelphia, PA.
Length: 64 hours (16 weeks).
Dates: September 1974–Present.
Objective: To provide the participant with the fundamental theory of microcomputer architecture, the state-of-the-art of microprocessor hardware, and experience in programming for microprocessor usage so that the participant can design actual subsystems.
Instruction: Covers the theory and application of microprocessors in design. Data are provided on currently available hardware, and hands-on experience is provided on their use.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering (1/77).

Effective Management Planning (MT-105)

Location: Philadelphia, PA.
Length: 26 hours (13 weeks).
Dates: February 1976–Present.
Objective: To provide planning within organizations in order to broaden participants' understanding of the planning function.
Instruction: Strategic, product, operational, program, engineering, and financial planning. Method includes lecture and case study. A history of the evolution of corporate planning and techniques for selling the plan are also included.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management (1/77).

Financial Accounting (FMP-102) (Advanced Financial Accounting)

Location: Philadelphia, PA.
Length: 24 hours (12 weeks).
Dates: January 1971–Present.
Objective: To train students to apply basic accounting theories and techniques to balance-sheet accounts, studies, and special accounting problems.
Instruction: All balance-sheet accounts; consolidated financial statements; foreign exchange accounting; fund flow/cash flow; federal, state and local taxes. Involves lecture, discussion, and homework projects.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (1/77).

Information Systems (FMP-302)

Location: Philadelphia, PA.
Length: 24 hours (12 weeks).
Dates: January 1969–Present.
Objective: To introduce planning and implementation of information systems from the management and business viewpoint.
Instruction: Designing, programming, developing, and managing computer-based data systems for business and financial operations. Method includes lecture, discussion, and case study.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Computer and Information Science (1/77).

Introduction to Chemistry I (AC-181)

Location: Philadelphia and King of Prussia, PA.
Length: 60 hours (30 weeks).
Dates: September 1975–Present.
Objective: To provide students with an understanding of the basic concepts of chemistry and how these concepts relate to the materials and processes used in the aerospace industry.
Instruction: Atomic theory and structure of compounds; oxygen, oxidation, and combustion; gas laws-hydrogen; molecules and molecular weights; general classification of compounds; classification of the elements; structure of the atom and the theory of valence; water; carbon; solutions and colloids; halogens; alkali metals; ionization; chemical equilibrium; nitrogen and ammonia. Method includes lecture and discussion.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Chemistry (1/77). NOTE: Recommendation does not apply to science and engineering majors.

Introduction to Chemistry II (AC-281)

Location: Philadelphia and King of Prussia, PA.
Length: 60 hours (30 weeks).
Dates: September 1975–Present.
Objective: To provide students with an understanding of the basic concepts of chemistry and how these concepts relate to the materials and processes used in the aerospace industry.

Instruction: The sulfur family; electrochemistry; organic chemistry; aliphatic hydrocarbons; olefins; free radicals; aromatic hydrocarbons; alcohols; phenols; ethers; halides; amines and derivatives; aldehydes; ketones; acids; polyfunctional compounds; organic polymers; carbohydrates; amino acids; peptides and proteins; biochemical reactions; biosynthesis; general biological reactions. Method includes lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Chemistry (1/77). NOTE: Recommendation does not apply to science and engineering majors.

Management Accounting (FMP-202) (Management Cost Accounting)

Location: Philadelphia, PA.
Length: 34 hours (17 weeks).
Dates: January 1971-Present.
Objective: To provide students with an understanding of cost accounting as a quantitative device for use by managers in selecting and researching objectives.
Instruction: General cost accounting concepts; job order costs; standard costs; process costs; direct costing and government contract costing. Involves lecture, discussion, and homework projects.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (1/77).

Materials Engineering I (ME-121)

Location: Valley Forge Space Center, Valley Forge, PA.
Length: 60 hours (30 weeks).
Dates: September 1974-Present.
Objective: To provide students with an introduction to materials science.
Instruction: Principles underlying structure, properties, and behavior of engineering materials, including metals, ceramics, and polymers. Bonding; crystal structure; defect structure; alloying; mechancial; electronic and magnetic properties in relation to structure; phase equilibrium; phase transformation. Instruction is chiefly lecture.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering (1/77).

Modern Structural Analysis I (ME-122) (Survey of Topics in Structural Analysis)

Location: Philadelphia and Valley Forge, PA.
Length: 60 hours (30 weeks).
Dates: September 1977-Present.
Objective: To provide design engineers with a survey of selected topics in structual analysis.
Instruction: Covers elastic analysis of indeterminate structures, using the finite element method. Provides an introduction to fracture mechanics and the analysis and design of composite materials. Lecture, discussion, and problem solving are employed.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Structural Engineering (1/77).

Probability Theory for Engineering Applications (AM-174) (Probability Theory)

Location: Philadelphia, PA.
Length: 32 hours (16 weeks).
Dates: September 1977-Present.
Objective: To establish a foundation in mathematical probabilty theory.
Instruction: Basic mathematical probability theory with calculus: set theory as a basis for probabilty; probability axioms; the concept of a random variable; distributions, density functions, moments and characteristic functions; conditional marginal and joint distributions; and functions of random variables. Lecture, discussion, and homework problems are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Mathematics (1/77).

Supervisory Development and Organization Renewal Workshop (MT-2020)

Location: Philadelphia, PA.
Length: 45-50 hours (16 sessions).
Dates: September 1977-Present.
Objective: To broaden the experienced supervisor's understanding of human behavior and of his or her impact on others; to improve supervisory skills and ability to influence the organizational environment through planned problem-solving strategies; to give the supervisor a greater sense of participation in the management process.
Instruction: The course is divided into three major phases: theory, practices, and implementation and follow-up. Topics include motivation, transactional analysis, leadership styles, group dynamics, and problem solving. Students attend management training sessions and then apply their knowledge in identifying and solving problems in their work situations. Method emphasizes discussion and workshop.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Organizational Behavior/Management (1/77).

Value Analysis (MT-104 or MT-204) (Value Engineering)

Location: Philadelphia and Valley Forge, PA.
Length: 40 hours (13 weeks).
Dates: February 1975–Present.
Objective: To familiarize managers with the analysis and solution of engineering and organizational problems through the systematic implementation of value engineering principles.
Instruction: History of Value Engineering/Value Analysis; job plan application; types of value; information phase; functional analysis; systems technique. Method includes lecture, discussion, and workshop.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Operations Management (1/77).

General Motors Corporation

General Motors (GM) manufactures and markets automotive products through a network of independently owned dealerships throughout the world. The corporation employs approximately 812,000 people.

General Motors offers management, technical, and special courses on a corporation-wide basis and for individual units of the corporation and their dealerships. The training function is administratively organized into three separate units: Continuing Engineering Education, Marketing Educational Services, and Education and Training.

The headquarters for the three units is in Flint, Michigan, and they use the facilities of the General Motors Institute, a 4-year accredited institution which is a wholly owned subsidiary of the GM Corporation.

Continuing Engineering Education

This unit conducts engineering/technical courses for plant and division personnel. The courses listed below are conducted in Flint, Michigan, and at plant locations throughout the corporation. Instructional staff are drawn primarily from the faculty of the General Motors Institute.

Source of official student records: Director, Continuing Engineering Education, General Motors Institute, 1700 West Third Avenue, Flint, Michigan 48502.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, On. Dupont Circle, Washington, D.C. 20036

Design of Computerized Real-Time Data Acquisitions, and Process Control Systems (0221) (Formerly Computer Process Control [0221])

Location: General Motors, Flint, MI.
Length: 48 hours (5 days); residential.
Dates: May 1971–Present.
Objective: To provide knowledge and experience in the application of minicomputers to machine and industrial processes.
Instruction: Considers process computer concepts including data acquisition, control computations, and output actuation for real-time systems. Input/output devices; software program implementation; detailed considerations for the computerized control of small manufacturing processes. Emphasis on practical, hands-on experience.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (7/75).

Engineering Economy Analysis of Plant Projects (0293)

Location: General Motors, Flint, MI, and plant locations.
Length: 80 hours (10 days); residential.
Dates: February 1966–September 1977.
Objective: To present methods and develop expertise for evaluating the economic aspects of engineering decisions.
Instruction: The development of evaluation and decision criteria for an engineering approach to economic evaluation. Depreciation practices; alternative comparisons; economic life studies; tax implications; retirement and replacement studies; structuring for economic improvement. Case study examples are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (7/75).

Human Performance (0272) (Introduction to Human Performance)

Location: General Motors, Flint, MI.
Length: 40 hours (5 days); residential.
Dates: November 1972–Present.
Objective: To present the psychological and physical attributes of people relevant to system design and performance evaluation.
Instruction: Introduction to various human attributes as they relate primarily to the industrial setting. Human information processing and coding; vision and light; hearing and noise; motivational aspects of work; anthropometry; fatigue; job enrichment; accident characteristics. Lectures and discussions are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Engineering or Management (7/75).

Introduction to Minicomputer Programming (0223)

Location: General Motors, Flint, MI.
Length: 48 hours (5 days); residential.
Dates: May 1971–Present.
Objective: To provide an introduction to minicomputer hardware and software with the major emphasis on programming.
Instruction: Machine organization, specifications and operating characteristics from the user point of view. Assembly-level programming; debugging; flow charting; software aids. Emphasis is on laboratory hands-on experience.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering, Engineering Technology, or Machine Technology (7/75).

Methods Analysis and Basic Time Study (0273)

Location: General Motors, Flint, MI, and plant locations.
Length: 76 hours (10 days); residential.
Dates: September 1968–Present.
Objective: To provide people working in methods and time study departments with a working knowledge of techniques and methodologies necessary to evaluate and improve industrial operations.
Instruction: Review of the classic procedures necessary to perform both methods analysis and time studies. Evaluation of worker motion patterns; activity breakdowns; work flow and process analysis; statistics of time studies; human relations; time study methods; delay allowances; human performance factors; engineering economy in man-machine systems. Both lectures and laboratory sessions are used along with a manual.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (7/75).

Noise Control (0213)

Location: General Motors, Flint, MI.
Length: 40 hours (5 days); residential.
Dates: November 1964–Present.
Objective: To provide engineers with contemporary knowledge of concepts, techniques of measurement, and interpretation of data related to noise.
Instruction: Introduction to noise and acoustical physics; OSHA and GM noise regulation procedures; hearing physiology and audiometric testing; machine and equipment noise abatement specifications; architectural physics; noise measurement and control concepts and methods; vibration analysis. Lectures, seminars, and laboratory exercises are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering (7/75).

Nondestructive Evaluation (0252)

Location: General Motors, Flint, MI, and plant locations.
Length: 40 hours (5 days); residential; *or* 40 hours (10 weeks); with weekly sessions.
Dates: January 1970–Present.
Objective: To provide process and design engineers, vendor source inspectors, and reliability and quality control personnel with an understanding of the fundamentals of nondestructive evaluation methods.
Instruction: Study of the nondestructive evaluation methods with emphasis on radiography, ultrasonics, eddy currents, acoustical emission, holography, and stress analysis techniques. Principles of each test method are identified and the advantages and limitations indicated. Laboratory exercises illustrate the fundamental concepts discussed in the classroom and provide an opportunity to work on practical inspection problems.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology or Manufacturing Engineering (7/75).

Plant Layout and Materials Handling (0274)

Location: General Motors, Flint, MI.
Length: 80 hours (2 weeks); residential.
Dates: December 1964–Present.
Objective: To develop a working knowledge of the fundamentals of plant layout and material handling and provide an ability to recognize and solve related problems involving planning, design, operation, and control of space and equipment.
Instruction: Introduction to the basic concepts involved in the analysis and solution of plant layout and material handling problems. Graphical layout techniques; travel charting; block area diagramming; computer simulations. Workshop projects provide an opportunity to relate the theories to the solution of practical problems. Plant visitations are used to illustrate the principles in practice.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Architectural Science or Engineering (7/75).

Project Management Using Network Planning Techniques (0292) (Formerly Critical Path Planning [0292])

Location: General Motors, Flint, MI, plant locations.
Length: 40 hours (5 days); residential.
Dates: October 1968–Present.
Objective: To acquaint students with the use of critical path planning methods in the analysis of typical industrial situations.
Instruction: The course introduces and demonstrates the use of CPM in several industrial problems. Network dia-

gramming; time compression methods; Gantt charting; use of computer algorithms; PERT. Methodology includes lectures and problem sessions.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering, Engineering Technology, or Management (7/75).

Quality Control and Industrial Statistics I (0201) (Introduction to Data Sampling and Analysis)

Location: General Motors, Flint, MI, and plant locations.
Length: 80 hours (2 weeks); residential.
Dates: January 1974–Present.
Objective: To introduce students to methods of sampling in the manufacturing environment so they can gather, reduce, and evaluate data for quality control purposes.
Instruction: Introduction to probability and probability density functions; histogram construction; mean and variance estimation; use of control and defect charts; performing process capability studies; use of AOQ and AOQL sampling methods. Lectures and problem sessions are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering or Engineering Technology (7/75).

Quality Control and Industrial Statistics II (0202) (Introduction to Industrial Statistics)

Location: General Motors, Flint, MI, and plant locations.
Length: 80 hours (10 days); residential.
Dates: May 1972–Present.
Objective: To introduce the student to basic statistical concepts necessary for analysis of quality and/or engineering problems.
Instruction: Empirical distributions; hypothesis testing; point and interval estimating; analysis of variance; simple and multiple regression models; design of experiments; optimal sampling techniques. Lectures and problem sets are used extensively.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (7/75).

Reliability Engineering (0205)

Location: General Motors, Flint, MI, and plant locations.
Length: 40 hours (5 days); residential.
Dates: April 1972–Present.
Objective: To explore the concepts of reliability, focusing on the prediction and analysis of product failures and using the methods of probability.
Instruction: Reliability analysis is surveyed including a review of probability, distribution functions, and the three areas of reliability. Techniques are developed for life test design, evaluation, and reliability prediction using the Weibull and other distributions. Includes applications and examples.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Engineering or Engineering Technology (7/75).

Resistance Welding (0237) (Formerly Spot and Projection Welding)

Location: General Motors, Flint, MI, and plant locations.
Length: 40 hours (5 days) residential; *or* 40 hours (10 weeks) with weekly sessions.
Dates: October 1969–Present.
Objective: To provide welding supervisors, welder repairmen, process engineers, and quality control personnel with an understanding of the fundamentals of resistance welding processes.
Instruction: Study of resistance welding processes with considerable emphasis on spot and projection applications. Treatment of material properties; weld quality considerations; welding fixtures; production schedules; safety requirements. Laboratory exercises augment classroom discussions and provide an opportunity to solve practical manufacturing problems.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology or Manufacturing Engineering (7/75).

Education and Training

The management courses listed below are offered to plant and division management in Flint, Michigan, and four field centers: Buffalo, New York; Indianapolis, Indiana; Dayton, Ohio; and Detroit, Michigan.

Source of official student records: Director, Education and Training, General Motors Corporation, 1700 West Third Avenue, Flint, Michigan 48502.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Basic Management for First Line Supervisors—Engineering/Technical (0004)

Location: General Motors, Flint, MI; field centers.
Length: 40 hours (5 days); 6 hours of preparatory independent study.

Dates: September 1974–Present.

Objective: To examine and develop fundamental skills in technical staff supervision.

Instruction: Basic financial management (return on investment); human behavior as it relates to small-group performance; communication in conflict resolution; the supervision of technical staff. Methodology includes participant involvement in a series of management simulation exercises related to the work environment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Basic Management for First Line Supervisors in Manufacturing (0003)

Location: General Motors, Flint, MI; field centers.

Length: 40 hours (5 days); 6 hours of preparatory independent study.

Dates: September 1974–Present.

Objective: To examine and develop fundamental skills in plant supervision.

Instruction: Basic financial management (manufacturing costs); human behavior as it relates to job performance; communication in conflict resolution; application of performance analysis concepts. Methodology includes participant involvement in a series of management simulation exercises related to the work environment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Basic Management for First Line Supervisors of Salaried Employees (0005)

Location: General Motors, Flint, MI; field centers.

Length: 40 hours (5 days); 6 hours of preparatory independent study.

Dates: November 1974–Present.

Objective: To examine and develop fundamental skills in office supervision.

Instruction: Basic financial management (return on investment); human behavior as it relates to job performance; communication in conflict resolution; employee performance management (including management by objectives). Methodology includes participant involvement in a series of management simulation exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Intermediate Management for General Supervisors in Manufacturing (0010)

Location: General Motors, Flint, MI; field centers.

Length: 42 hours (5 days); 6 hours of preparatory independent study.

Dates: December 1974–Present.

Objective: To provide second-level supervisors with the knowledge and skills necessary to manage foremen in plant operations.

Instruction: Analysis and improvement of human performance; the relationship of managerial behavior to employee performance; utilization of the problem-solving process. Methodology includes case studies, role play, personal assessment using video replay, and analysis.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management or Organizational Behavior (4/75).

Intermediate Management for General Supervisors of Salaried Employees (0011)

Location: General Motors, Flint, MI; field centers.

Length: 42 hours (5 days); 6 hours of preparatory independent study.

Dates: December 1974–Present.

Objective: To provide the second-level supervisor with the knowledge and skills necessary to manage salaried supervisors in nonmanufacturing operations.

Instruction: Analysis and improvement of human performance; the relationship of managerial behavior to employee performance; utilization of the problem-solving process. Methodology includes case studies, role play, personal assessment using video replay, and analysis.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management or Organizational Behavior (4/75).

Marketing Educational Services

This unit offers courses to GM sales personnel and dealership management personnel. The courses listed below are offered in Flint, Michigan, and in 5 campus centers in Atlanta, Fort Worth, Philadelphia, San Francisco, and Pomona. Courses are also conducted at campus locations in Canada.

Source of official student records: Director, Marketing Educational Services, General Motors Corporation, General Motors Building, 3044 West Grand Boulevard, Detroit, Michigan 48202.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Dealership Management Development (0147)

Location: General Motors, Flint, MI.

Length: 160 hours (4 weeks).

Dates: August 1973–Present.

Objective: To provide prospective dealers with the knowledge and skills of dealership organization, functions, and management requirements.

Instruction: Personnel, financial, and physical plant requirements of automotive dealerships and their relationship to finance companies, customers, employees, and the community. Methodology includes team teaching, participant role plays, computerized dealership simulation, and video taping with critique.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Management (4/75).

1. **Fundamentals of Management for Parts Managers (X121)**
2. **Personnel Management for Parts Managers (X122)**
3. **Financial Management for Parts Managers (X123)**
4. **Operations Management for Parts Managers (X124)**

Location: Flint, MI; Newark, DE; Atlanta, GA; Fort Worth, TX; Pomona, CA; San Francisco, CA; Vancouver, British Columbia; London, Ontario; Ottawa, Ontario; and other locations as necessary.

Length: 1. 34 hours (1 week); 6 hours of preparatory independent study.
2. 34 hours (1 week); 8 hours of preparatory independent study.
3. 36 hours (1 week); 8 hours of preparatory independent study.
4. 34 hours (1 week); 16 hours of preparatory independent study.

Dates: 1. October 1975–Present.
2. March 1976–Present.
3. August 1976–Present.
4. February 1977–Present.

Objective: To provide parts managers with the knowledge and skills required to perform essential managerial functions in dealership settings.

Instruction: *Courses 1, 2, and 3:* Considers management by objectives and the application of management process to such areas as promotional strategy, customer relations, and merchandising within the dealership environment. Discussion of personnel management includes staffing, performance evaluation, and communications. Coverage of financial management includes statement analysis, parts department analysis, expense management, and forecasting using a simulation to develop conceptual skills. *Course 4:* Gross profit; profit-expense relationships; inventory management; merchandising; building a plan. Lectures, discussions, case studies, and practical exercises are used in all courses.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Automotive Technology or Management (8/76). NOTE: Courses 1, 2, 3, and 4 must be completed in order to receive credit.

1. **Fundamentals of Management for Sales Managers (OX101)**
2. **Personnel Management for Sales Managers (OX102)**
3. **Financial Management for Sales Managers (OX103)**
4. **Operations Management for Sales Managers (OX104)**

Location: Flint, MI; Newark, DE; Atlanta, GA; Fort Worth, TX; Pomona, CA; San Francisco, CA; Vancouver, British Columbia; London, Ontario; Ottawa, Ontario; and other locations as necessary.

Length: 1. 36 hours (1 week); 8 hours preparatory independent study.
2. 36 hours (1 week); 6 hours preparatory independent study.
3. 36 hours (1 week); 12 hours preparatory independent study.
4. 36 hours (1 week); 16 hours preparatory independent study.

Dates: 1. February 1974–Present.
2. February 1974–Present.
3. February 1974–Present.
4. October 1975–Present.

Objective: To provide sales managers with the knowledge and skill required to perform essential managerial functions in dealership settings.

Instruction: *Courses 1, 2, and 3:* Considers management by objectives and the application of management process to such areas as promotional strategy, customer relations, and merchandising within the dealership environment. Discussion of personnel management includes staffing, performance evaluation, and communications. Coverage of financial management includes variable and fixed expenses, profit determination, methods of analysis, expense management, and forecasting using simulations to develop conceptual skills. *Course 4:* Profit objectives, management influence; developing a sales force; communicating with customers and salesman; selling intangibles; synthesizing the relationship between the customer and the dealership. Lectures, discussions, case studies, and practical exercises are used in all courses.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Automotive Technology or Management (8/76). NOTE: Courses 1, 2, 3, and 4 must be completed in order to receive credit.

1. **Fundamentals of Management for Service Managers (OX111)**
2. **Personnel Management for Service Managers (OX112)**
3. **Financial Management for Service Managers (OX113)**
4. **Operations Management for Service Managers (OX114)**

Location: Flint, MI; Newark, DE; Atlanta, GA; Fort Worth, TX; Pomona, CA; San Francisco, CA; Vancouver, British Co-

lumbia; London, Ontario; Ottawa, Ontario; and other locations as necessary.

Length: 1. 36 hours (1 week); 10 hours preparatory independent study.
2. 36 hours (1 week); 10 hours preparatory independent study.
3. 36 hours (1 week); 12 hours preparatory independent study.
4. 34 hours (1 week); 14 hours preparatory independent study.

Dates: 1. February 1974–Present.
2. February 1974–Present.
3. February 1974–Present.
4. May 1975–Present.

Objective: To provide service managers with the knowledge and skills required to perform essential managerial functions in dealership settings.

Instruction: *Courses 1, 2, and 3:* Considers management by objectives and the application of management process to such areas as promotional strategy, customer relations, and merchandising within the dealership environment. Discussion of personnel management includes staffing, performance evaluation, and communications. Coverage of financial management includes elements of finance, forecasting, service department analysis, and expense management using a simulation to develop conceptual skills. *Course 4:* Service department functions; resource utilization; decision analysis; utilization of potential; managing service sales; decision implementation; building a plan. Lectures, discussions, case studies, and practical exercises are used in all courses.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Automotive Technology or Management (8/76). NOTE: Courses 1, 2, 3, and 4 must be completed in order to receive credit.

General Motors Field Management Development Program (0161)

Location: General Motors, Flint, MI; and selected General Motors divisions and dealerships.

Length: *Version 1:* 1,040 hours (26 weeks); 11 weeks of classroom instruction and a 15-week internship.

Version 2: 840 hours (21 weeks); 11 weeks of classroom instruction and a 10-week internship.

Dates: *Version 1:* January 1972–December 1976.

Version 2: January 1977–Present.

Objective: To provide participants with an in-depth understanding of the marketing and sales functions of franchise retail organizations that have single-source suppliers.

Instruction: The general management section covers business management, service and sales agreements, dealership simulation, and integration of manufacturer-dealer relationship. The retail merchandising section includes product information, distribution, marketing, advertising and merchandising, and customer service. The automotive technology section covers automotive basics, automotive electronics, air-conditioning, and parts and accessories. The internships include an orientation to home and allied factories. For retail merchandising interns, there is a classroom orientation, and the participant works in franchise retail operations at a manufacturing field office, specializing in management and sales departments. The automotive technology internship includes a classroom orientation; the participant works in franchise retail operations at a manufacturing field office, specializing in parts and service departments.

Credit recommendation: *Versions 1 and 2:* In the upper division baccalaureate category, 6 semester hours in General Management, 5 semester hours in Retail Merchandising, and 5 semester hours in Automotive Technology; for district managers, 3 additional semester hours in internship in Retail Merchandising; for parts and service managers, 3 additional semester hours of internship in Automotive Technology (4/75).

General Telephone Company of California

General Telephone Company of California is part of General Telephone and Electronics Corporation and employs more than 18,000 employees within the State of California. The company provides communication services ranging from basic home telephone services to complete business communications systems.

General Telephone Company of California offers its employees a variety of educational activities designed to improve technical, administrative, and managerial skills. The courses are usually developed in response to formally stated corporate goals, to requests for specific training, or to management directives.

Source of official student records: Personnel Development—R. C. 1399; General Telephone Company of California; Post Office Box 889, Santa Monica, California 90406.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Presentation Techniques (82203)

Location: Personnel Development Conference Center, Santa Monica, CA.

Length: 24 hours (3 days).

Dates: June 1977–Present.

Objective: To teach students the methods and techniques, including in-depth analysis, of conducting presentations, meetings, interviews and counseling sessions, and of presenting proposals.

Instruction: Developing a presentational objective; using graphic displays, transparencies, audio-visual equipment; developing verbal and non-verbal communication skills; learning to conduct and participate in conferences and meetings. Methodology includes programmed instruction, lecture, discussion, demonstration, and student presentations with video-taped feedback.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration, Education, Public Administration, or Speech (9/77).

Interaction Management (82118-82144)

Location: Twenty-four divisions of General Telephone throughout the state.

Length: 54 hours (18 three-hour modules typically over an extended period of time).

Dates: February 1977–Present.

Objective: To build skills and confidence in supervisors that will enable them to handle difficult and continuing key problems, and to help them effectively transfer these supervisory skills from the classroom to the job.

Instruction: The course consists of the following 18 modules: orienting the new employee, improving employee performance, improving attendance, reducing tardiness, maintaining improved performance, utilizing effective follow-up action, utilizing effective disciplinary action, handling employee complaints, overcoming resistance to change, delegating responsibilities, setting and reviewing performance goals, motivating the average performer, teaching an employee a new job, handling customer (client) complaints, handling emotional situations, handling discrimination complaints, taking immediate corrective action. Methodology includes lecture, discussion, and a series of case studies presented by students and in films, each followed by skill development practice.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (9/77). NOTE: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration is recommended for successful completion of any nine of the above modules. This must be indicated in the student's record.

Key Manager Program (82108)

Location: Los Angeles, CA; locations throughout the state.

Length: 80 hours (2 weeks); (residential program).

Dates: October 1970–April 1975.

Objective: To develop skills and techniques to improve managerial effectiveness.

Instruction: Selected behavioral and functional concepts of management and their application to today's business world. This course is appropriate as a general introduction to business but not as an introductory management course. Methodology includes lecture, discussion, and laboratory techniques.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration (9/77). NOTE: To be eligible for credit, student must complete optional assessment.

Orientation to Management (82115)

Location: Personnel Development Conference Center, Santa Monica, CA.

Length: 40 hours (5 days).

Dates: August 1977–Present.

Objectives: To familiarize newly promoted staff and line management personnel with the fundamental concepts of managing, and to aid the manager in achieving greater utilization of personal and personnel resources.

Instruction: Responsibility of management; planning, organizing and controlling; gaining acceptance as the new supervisor; improving work habits; written and oral communication; and labor relations. Methodology includes lecture, group discussion, and workshops, supported by audio-visual aids.

Credit recommendation: In lower division baccalaureate/associate degree category, 1 semester hour in Business Administration (9/77).

The Graduate School of Banking at the University of Wisconsin—Madison (Central States Conference of Bankers Associations)

The Graduate School of Banking, established in 1945, provides a program of continuing education and research for practitioners in banking, economics, and finance. The student body is composed of bank officers and officials of bank regulatory agencies.

The curriculum emphasizes policy and management problems; it focuses on the tools of bank management and the analytical framework within which general management problems can be recognized and solved. Course offerings are designed and coordinated by a faculty of practicing bankers, academicians, and other professionals.

Attendance at three 2-week summer sessions conducted on the campus of the University of Wisconsin in Madison

and completion of extension work are required for graduation. For evaluation purposes, courses were grouped together that are offered throughout the three years of the Program. Thus, students requesting credit must have completed the entire program.

Participants wishing to apply for credit must pass an examination at the end of each annual 2-week session. These examinations were instituted in August 1977, but students who completed the programs as early as 1972 may take the examination to have the credit recommendations apply to them. Successful completion of the examinations is indicated on the student's record.

The recommendations listed below apply only to those who complete the total program and not to individual courses or sections.

Source of official student records: Registrar, The Graduate School of Banking, 122 West Washington Avenue, Madison, Wisconsin 53703.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

(Basic Macroeconomics)

1. **Economic Policy and the Market Economy**
2. **The Financial System in the Economy**
3. **Monetary and Fiscal Policy**
4. **Business Conditions**

Location: University of Wisconsin—Madison.
Length: 1. 8 1/2 hours (1 week).
2. 8 hours (1 week).
3. 6 hours (1 week).
4. 5 hours (1 week).
Total length: 39 1/2 hours (2 weeks); also included are 12 hours of evening lectures on current topics.
Dates: August 1977–Present.
Objective: To provide an understanding of the American economy, forces of change in that economy, and the use of economic stabilization policies to influence the economy's path.
Instruction: Analysis of the level of economic activity and employment and the factors determining that level; the role of money and the banking system in money creation and the general role of money in the economy; formulation and implementation of monetary and fiscal policy to achieve full employment; maximum production and price stability; business cycles and economic forecasting; elements of the international payments system; factors determining long-term economic growth. Lectures, discussion, and independent extension problems are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Economics (12/76).

(Business Policy)

1. **Bank Management and Automation**
2. **Bank Management Simulation**

Location: University of Wisconsin—Madison.
Length: 1. 16 1/2 hours (2 weeks).
2. 31 hours (2 weeks); 21 hours classroom instruction, plus 10 hours group work in the evening.
Dates: August 1977–Present.
Objective: To provide the student with the opportunity to formulate decisions and determine strategies of managing a financial institution through a management interactive game.
Instruction: This course culminates the three-year program by allowing the student to make decisions and determine policy on loans, deposits, investments, capital, dividend policy, premise policy, cost control, planning and liquidity management. Theory and practical experience are merged through the computer model, lectures, and independent extension problems. The student assumes the role of upper management in making vital decisions affecting the future of the firm.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Management (12/76).

(Commercial Lending)

1. **Commercial Bank Credit**
2. **Agricultural and Rural Credit Policy**
3. **Advanced Credit Analysis**

Location: University of Wisconsin—Madison.
Length: 1. 16 1/2 hours (2 weeks).
2. 8 hours (1 week).
3. 11 hours (2 weeks).
Dates: August 1977–Present.
Objective: To provide the student with fundamental concepts underlying modern commercial bank practice in credits and collection.
Instruction: Covers secured and unsecured bank lending practices. Application of the principles of credit and collection is supplied through current case studies. Extended treatment of agricultural and rural credit policy as well as financial statement analysis is included. Lecture, discussion, and independent extension problems are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Finance (12/76).

(Investments)

1. **Investments**
2. **Real Estate Finance**
3. **International Finance**
4. **Personal Financial Planning**

Location: University of Wisconsin—Madison.
Length: 1. 16 1/2 hours (2 weeks).
2. 8 1/2 (1 week).

3. 6 hours (1 week).
4. 5 hours (1 week).

Dates: August 1977–Present.

Objective: To provide the student with an understanding of the fundamentals of security selection and portfolio management.

Instruction: Principles of investments and their application to the portfolio management decisions of individuals and financial institutions; money management and the factors responsible for capital formation are emphasized. Lecture, discussion, and independent extension problems are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Finance (12/76).

(Management of Financial Institutions)

1. **Law**
2. **Bank Marketing**
3. **Retail Banking**
4. **Trust Department Procedure and Practice**
5. **Bank Financial Management**
6. **Personnel Management**
7. **Community Bank Management**

Location: University of Wisconsin—Madison.

Length: 1. 8 hours (1 week).
2. 8 1/2 hours (1 week).
3. 8 1/2 hours (1 week).
4. 6 hours (1 week).
5. 16 1/2 hours (2 weeks).
6. 8 hours (1 week).
7. 5 hours (1 week).

Dates: August 1977–Present.

Objective: To explore the management of financial institutions in the context of basic and advanced problems.

Instruction: Asset and liability management; marketing and promotion; regulatory matters; trust departments; personnel management problems. Lecture, discussion, and independent extension problems are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 4 semester hours in Finance (12/76).

Harbor General Hospital Women's Health Care Physician's Assistant Training Program

The Women's Health Care Physician's Assistant Training Program, located at Harbor General Hospital in Torrance, California, began in 1969 as an experimental program to test the appropriateness of the delegation of medical skills to new health practitioners. In 1976, the State of California, Department of Consumer Affairs, Board of Medical Examiners certified the Women's Health Care Physician's Assistant Training Program as an approved program to educate Physician's Assistants.

The Women's Health Care Physician's Assistant Training Program is a 24-week clinical course, followed by a six-month supervised clinical experience and a three-month preceptorship. These college courses are prerequisites for California residents: Mathematics (including algebra), English, anatomy and physiology, microbiology, sociology or cultural anthropology, and psychology. The preceptorship period is monitored by contact, questionnaire, performance evaluation, and random site visits. During the preceptorship, the trainee is supervised by a physician.

Source of official student records: Administrative Services Assistant, Women's Health Care Physician's Assistant Training Program, Harbor General Hospital, Building A-14, 1000 West Carson Street, Torrance, California 90509.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Women's Health Care Physician's Assistant Training Program

Area 1: (Medical Communication)
Area 2: (Human Physiology)
Area 3: (Clinical Appraisal and Management)
Area 4: (Assessing and Counseling Client's Psycho-social Needs)
Area 5: (Health Care Administration)

Location: Torrance, CA.

Length: *Area 1:* 13 hours; plus Clinical.
Area 2: 57 hours; plus Clinical.
Area 3: 136 hours; plus Clinical.
Area 4: 47 hours; plus Clinical.
Area 5: 43 hours; plus Clinical.
Total 960 hours (24 weeks).

Dates: January 1971–Present.

Objective: To prepare the Women's Health Care Physician's Assistant to provide primary care to women seeking ambulatory services in the areas of Obstetrics and Gynecology. *Area 1:* To provide the student with an introduction to the planning of client management. *Area 2:* To provide an understanding of human physiology as it applies to health care issues; to provide an understanding of reproductive process throughout the human life cycle. *Area 3:* To prepare the student to take and record a health history, to perform a physical examination, to recognize and distinguish normal and abnormal findings, to follow clinical protocols in the provision of health services for women who seek: health maintenance, contraception, prenatal care, postpartum and newborn assessment. *Area 4:* To provide an understanding of the psycho-social needs including sex-

uality of women's health care clients; to describe and demonstrate the practitioner's role in assessing, educating, and counseling the client. *Area 5:* To understand the problems and conflicts of the various roles in a health care setting and to utilize principles of organizational change to teach the principles of informed choice/consent and to expose students to professional code of ethics.

Instruction: *Area 1:* Description of Problem-Oriented Medical Record Model, Utilization of POMR model including medical terminology and evaluation of management. *Area 2:* Endocrinology, reproductive anatomy and physiology, normal and abnormal pregnancy. *Area 3:* Interviewing; physical diagnosis; basic laboratory evaluation; the use of Problem-Oriented Medical Record (POMR); pharmacology; contraception including IUD insertion and fitting of vaginal diaphragms; prenatal care; pap smears; wet mounts of vaginal secretions; b » st examinations; paracervical blocks; venipuncture and injections; aseptic technique; Cardio Pulmonary Resuscitation (CPR). *Area 4:* Client-Centered Counseling; health education plans, development, and implementation; psychology of contraceptive failure; sexual and procreational stages of women; psychosexual development; human sexual function and dysfunction; recognition and dispelling of common sexual myths and misinformation. *Area 5:* Introductory material on legislative impacts on the practitioner's role; study of role-sets, role conflict, and ambiguity; job descriptions and resumes for the new health care role; principles of behavioral change and resistance to change; introductory material on organizational structure, power, influence, and authority. Methodology includes lecture, discussion, self-paced learning modules, role playing, audio-visual aids, and supervised clinical experience.

Credit recommendation: *Area 1:* In the upper division baccalaureate degree category, 1 semester hour in Allied Health or Health Science. *Area 2:* In the lower division baccalaureate/associate degree category, 4 semester hours in Human Anatomy and Physiology. *Area 3:* In the upper division baccalaureate category, 10 semester hours in Allied Health or Nursing. *Area 4:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Allied Health, Behavioral Science, or Psychology. *Area 5:* In the upper division baccalaureate category, 3 semester hours in Behavioral Science, Business Administration (Management), or Public Administration (9/78). NOTE: Student must successfully complete total program to receive credit for any one area.

Harry Lundeberg School

The Harry Lundeberg School, founded in 1967, provides academic and career programs for boatmen and unlicensed seafarers. The purpose of the school is to train, guide, and encourage young people to pursue careers on the seas or on America's network of inland and coastal waterways, as well as to upgrade seafarers and boatmen to higher ratings. The school is administered by a joint board of Trustees representing private American shipowners and the Seafarers International Union.

The school conducts both academic and vocational programs. The academic program consists of a reading program, an independent study program, and a high school equivalency program. Vocational programs are developed and expanded as changes in industry or in Coast Guard regulations occur.

The courses listed below are part of the upgrading program open to experienced Union members who wish to advance in their careers. All the courses include hands-on experience aboard vessels as well as in the school's laboratories. Unless otherwise indicated, about half the class hours are spent in practical exercises.

Source of official student records: Director of Vocational Education, Harry Lundeberg School, Piney Point, Maryland 20674.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Assistant Cook

Location: Harry Lundeberg School, Piney Point, MD.

Length: 208 hours (6 weeks); residential; 42 hours lecture and discussion, 30 hours laboratory, and 136 hours workshop.

Dates: September 1976–Present.

Objective: To develop the skills of food service workers to perform the duties of assistant cook.

Instruction: Covers preparation, cooking, and serving of vegetables (fresh, canned, and frozen), cooked salads, sandwiches, and breakfast foods. The basics of food preparation, including sanitation, dietary values, work organization, and the use of recipes, are emphasized.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Quantity Food Production and 3 semester hours in Food Preparation (9/78).

Basic Steward

Location: Harry Lundeberg School, Piney Point, MD.

Length: 70 hours (2 weeks); residential; 10 hours lecture and laboratory and 25 hours of workshop per week.

Dates: May 1975–Present.

Objective: To develop the skills required to perform entry level jobs in maritime food service departments.

Instruction: Covers aspects of food service operations, of kitchen responsibilities and safety, use of kitchen utensils and tools, use of measurements and recipes, and quantity food preparation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Introductory Food Service Operations (9/78).

Chief Cook

Location: Harry Lundeberg School, Piney Point, MD.

Length: 242 hours (6 weeks); residential; 50 hours lecture and discussion, 54 hours laboratory, and 138 hours workshop.

Dates: September 1976–Present.

Objective: To teach a cook and baker (second cook) to serve as chief cook.

Instruction: Topics include principles and quantity of preparation of meats, poultry, seafood, soups, sauces, and gravies; identification of meat cuts by the use of charts; work organization; sanitation; the use of recipes.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Food Preparation and 3 semester hours in Quantity Food Production (9/78).

Chief Steward

Location: Harry Lundeberg School, Piney Point, MD.

Length: 232 1/2 hours (6 weeks); residential; 72 hours lecture and discussion, 86 hours laboratory, and 74 1/2 hours workshop.

Dates: September 1975–Present.

Objective: To teach chief cooks the duties of mess steward.

Instruction: A comprehensive course covering organization, work supervision, menu planning, inventory control, requisitioning procedures, and sanitation. Also includes all aspects of food production, nutrition, typing, first aid, CPR, and safety.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in First Aid and Cardio-Pulmonary Resuscitation, 4 semester hours in Food Service Organization and Supervision, and 2 semester hours in Quantity Food Preparation (9/78). NOTE: Credit for typing on the basis of institutional assessment.

Cook and Baker

Location: Harry Lundeberg School, Piney Point, MD.

Length: 216 hours (6 weeks); residential; 40 hours lecture and discussion, 22 hours laboratory, and 146 hours workshop.

Dates: September 1976–Present.

Objective: To teach assistant cooks to bake.

Instruction: Topics include baking breads, rolls, pies, cakes, cookies, and breakfast pastries. Students concentrate on dessert and breakfast preparations, sanitation, and work organization. Careful attention to recipe requirements is highlighted.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Baking and 3 semester hours in Quantity Food Production (9/78).

Diesel Engines

Location: Harry Lundeberg School, Piney Point, MD.

Length: 128 hours (3 weeks, 4 days); residential; 34 hours lecture/discussion and 6 hours laboratory/workshop per week.

Dates: January 1975–Present.

Objective: To provide the student with the knowledge to operate small diesel engines.

Instruction: Types, design, construction, and characteristics of various diesel engines; diesel nomenclature and principles of operation; introduction to the fuel, air, lubrication, and exhaust systems; the use of various gauges, meters, and instruments used on diesel engines; the care, operation, maintenance, and recording of diesel engine performance signals used between bridge and engine room; basic fire fighting; first aid and safety.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Diesel Engines (11/77).

Fireman, Watertender, and Oiler

Location: Harry Lundeberg School, Piney Point, MD.

Length: *Version 1:* 56 hours (2 weeks).
Version 2: 84 hours (3 weeks).
Version 3: 144 hours (4 weeks); residential; includes 14 hours supervised independent study.

Dates: *Version 1:* June 1972–August 1975.
Version 2: September 1975–September 1976.
Version 3: October 1976–Present.

Objective: *Versions 1 and 2:* To review the theoretical and practical knowledge required to perform the job of fireman/watertender or oiler aboard ship. *Version 3:* To provide students with the theoretical and practical knowledge required to perform the job of fireman/watertender or oiler aboard ship.

Instruction: *Versions 1 and 2:* Same as Version 3 except coverage is less in-depth. *Version 3:* Parts of a boiler and their functions; the steam and water cycle; fuel oil and lube oil systems; fire-fighting and emergency procedures. Use of a simulator in putting boilers on the line; changing burners, operating auxiliary equipment, and starting and securing main engines.

Credit recommendation: *Versions 1 and 2:* In the lower division baccalaureate/associate degree category, 2 semester hours in Marine Engineering (11/77). *Version 3:* In the lower division baccalaureate/associate degree category, 6 semester hours in Marine Engineering (11/77).

Lifeboatman and Able Seaman

Part 1: (Basic Seamanship)
Part 2: (Navigation)
Part 3: (First Aid and Safety)

Location: Harry Lundeberg School, Piney Point, MD.
Length: 202 hours (5 weeks, 3 days); residential.
Part 1: 144 hours.
Part 2: 36 hours.
Part 3: 22 hours.
Dates: October 1974–Present.
Objective: To provide the student with a sufficient understanding of life saving and seamanship skills to prepare for endorsement by the Coast Guard as an Able Seaman.
Instruction: *Part 1:* Lifeboat handling; deck seamanship; marlinspike seamanship; helmsmanship; cargo handling; rigging. *Part 2:* Rules of the road; bearings; aids to navigation; magnetic compass; radio use. *Part 3:* Treatment of wounds, shock, fractures, and burns; artificial respiration; toxic substances; survival measures; prevention and treatment of diseases; introduction to use of shipboard safety equipment; proper storage and handling of hazardous materials; fire prevention and shipboard fire-fighting.
Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 6 semester hours in Seamanship (11/77). *Part 2:* In the lower division baccalaureate/associate degree category, 2 semester hours in Coastwise Navigation and Piloting (11/77). *Part 3:* In the lower division baccalaureate/associate degree category, 1 semester hour in First Aid and Safety (11/77). NOTE: Further credit may be granted for Part 3 upon institutional evaluation.

Liquefied Gas Technology in Marine Transportation

Location: Harry Lundeberg School, Piney Point, MD.
Length: 132 hours (3 weeks, 3 days); residential.
Dates: March 1974–Present.
Objective: To familiarize the student with the safe operation of a liquid natural gas (LNG) vessel.
Instruction: Basic chemistry; tank and ship construction; gasification; reliquefaction procedures; inert gas and nitrogen systems; instrumentation; safety and fire fighting; loading, unloading, and transporting LNG.
Credit recommendation: NOTE: While this course is at the postsecondary level, it does not equate directly to standard collegiate course offerings. Institutional evaluation of the applicability of this course and of appropriate credit is recommended.

Maintenance of Shipboard Refrigeration Systems

Location: Harry Lundeberg School, Piney Point, MD.
Length: 218 hours (5 weeks, 4 days); residential.
Dates: December 1975–Present.
Objective: To provide the student with the theoretical and practical knowledge required to repair a refrigeration system.
Instruction: Basic refrigeration, refrigeration components; maintenance of refrigeration systems; parts replacement and overhaul; electrical circuitry; electrical wiring and troubleshooting. (Prerequisite: QMED (Qualified Marine Engine Department) Any Rating Endorsement or endorsement as Refrigeration Engineer and Electrician.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Refrigeration (11/77). NOTE: If student has completed QMED course, a maximum of 10 semester hours in Refrigeration should be granted.

Marine Electrical Maintenance

Location: Harry Lundeberg School, Piney Point, MD.
Length: 198 hours (5 weeks, 2 days); residential.
Dates: October 1975–Present.
Objective: To provide the student with the theoretical and practical knowledge required to troubleshoot and repair motors, generators, controllers, and signal appliances.
Instruction: Electrical theory and power systems; electrical measuring instruments; classroom and practical training in the control, operation, maintenance, troubleshooting, and repair of AC and DC motors and generators; controllers and solid-state motor control. (Prerequisite: QMED Any Rating Endorsement or endorsement as electrician.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Electricity (11/77). NOTE: If a student has completed QMED course, a maximum of 8 semester hours in Electricity should be granted.

QMED (Qualified Marine Engine Department)—12 week version

Part 1: (Principles of Electricity)
Part 2: (Principles of Refrigeration)
Part 3: (Principles of Steam Generation Systems)
Part 4: (First Aid and Safety)

Location: Harry Lundeberg School, Piney Point, MD.
Length: 336 hours (12 weeks); residential.
Part 1: 76 hours.
Part 2: 74 hours.
Part 3: 162 hours.
Part 4: 24 hours.
Dates: June 1977–Present.
Objective: To provide the student with the knowledge required for certification for QMED and to provide a thorough understanding of industrial steam generation systems.

Instruction: *Part 1:* Fundamental concepts of electricity; batteries; electrical circuits; magnetism and electromagnetic circuits; transformers; AC motors and generators; use and care of electrical instruments; troubleshooting of electrical equipment; starting, securing, and paralleling turbo generators; placed electrical measuring instruments; soldering, braising, and welding; fire-fighting and emergency procedures. *Part 2:* Principles of refrigeration; compressors; receivers; dehydrators; valves (solenoids, therm-expansion, packless); evaporators; testing for and repairing leaks. Emphasizes troubleshooting and refrigeration problems. *Part 3:* Operation, use, and repair of pumps; boiler theory and boiler water treatment; piping, tubing, and valves; automation principles; evaporators; fuels. *Part 4:* Preparation for emergency at sea; work safety; emergency first aid and procedures; controlling and extinguishing shipboard fires.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 4 semester hours in Electricity (11/77). *Part 2:* In the lower division baccalaureate/associate degree category, 4 semester hours in Refrigeration (11/77). *Part 3:* In the lower division baccalaureate/associate degree category, 9 semester hours in Steam Generation Systems (11/77). *Part 4:* In the lower division baccalaureate/associate degree category, 1 semester hour in First Aid and Safety (11/77).

QMED (Qualified Marine Engine Department)—8 week version

Part 1: (Principles of Electricity)
Part 2: (Principles of Refrigeration)
Part 3: (Principles of Steam Generation Systems)

Location: Harry Lundeberg School, Piney Point, MD.

Length: 242 hours (8 weeks); residential.
Part 1: 66 hours.
Part 2: 64 hours.
Part 3: 112 hours.

Dates: October 1973–May 1976.

Objective: To provide the student with the knowledge required for certification for QMED and to operate industrial steam generation systems.

Instruction: *Part 1:* Same as 12-week version; less time devoted to placed electrical measuring instruments; soldering, brazing, and welding. *Part 2:* Same as 12-week version; less time devoted to troubleshooting procedures. *Part 3:* Same as 12-week version; less time devoted to fuels.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 3 semester hours in Electricity (11/77). *Part 2:* In the lower division baccalaureate/associate degree category, 3 semester hours in Refrigeration (11/77). *Part 3:* In the lower division baccalaureate/associate degree category, 6 semester hours in Steam Generation Systems (11/77).

QMED (Qualified Marine Engine Department)—6 week version

Part 1: (Principles of Electricity)
Part 2: (Principles of Refrigeration)
Part 3: (Principles of Steam Generation Systems)

Location: Harry Lundeberg School, Piney Point, MD.

Length: 124 hours (6 weeks); residential.
Part 1: 48 hours.
Part 2: 46 hours.
Part 3: 30 hours.

Dates: November 1972–October 1973.

Objective: To provide the student with the knowledge required for certification for QMED and to operate and repair refrigeration and electrical equipment, and to introduce the student to the operation of industrial steam generation systems.

Instruction: *Part 1:* Same as 8-week version; less time is devoted to AC and DC electricity. *Part 2:* Same as 8-week version; less time is devoted to review. *Part 3:* Covers boiler theory.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 2 semester hours in Electricity (11/77). *Part 2:* In the lower division baccalaureate/associate degree category, 2 semester hours in Refrigeration (11/77). *Part 3:* In the lower division baccalaureate/associate degree category, 1 semester hour in Steam Generation Systems (11/77).

QMED (Qualified Marine Engine Department)—4 week version

Part 1: (Principles of Electricity)
Part 2: (Principles of Refrigeration)

Location: Harry Lundeberg School, Piney Point, MD.

Length: 98 hours (4 weeks); residential.
Part 1: 48 hours.
Part 2: 46 hours.

Dates: July 1972–October 1972.

Objective: To provide the student with the knowledge required for certification for QMED and to operate and repair refrigeration and electrical equipment.

Instruction: *Parts 1 and 2:* Same as 6-week version.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 2 semester hours in Electricity (11/77). *Part 2:* In the lower division baccalaureate/associate degree category, 2 semester hours in Refrigeration (11/77).

Quartermaster (Coastwise Navigation and Piloting)

Location: Harry Lundeberg School, Piney Point, MD.

Length: *Version 1:* 64 hours (2 weeks); residential.
Version 2: 132 hours (3 weeks, 3 days); residential.

Dates: *Version 1:* October 1972–March 1977.
Version 2: April 1977–Present.

Objective: To provide the student with a working knowledge of marine navigation.

Instruction: *Version 1:* Same as Version 2 but coverage is less complete. Tides and currents, electronic aids to navigation, and sounding are not covered. *Version 2:* Use of magnetic and gyro compass; rules of the road; international codes and signals; bridge publications and instruments; aids to navigation; use of radar, loran, fathometers, and RDF; tides and currents. (Prerequisite: Lifeboatman and Able Seaman course or Coast Guard endorsement as Able Seaman Unlimited Any Waters.)

Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 3 semester hours in Navigation (11/77). *Version 2:* In the lower division baccalaureate/associate degree category, 6 semester hours in Navigation (11/77).

Towboat Cook

Location: Harry Lundeberg School, Piney Point, MD.

Length: 277 hours (6 weeks); residential; 29 hours lecture and discussion, 24 hours laboratory, and 224 hours workshop.

Dates: September 1976–Present.

Objective: To develop the skills required to independently operate a food service kitchen serving up to twelve people.

Instruction: A comprehensive course in food principles and preparation of the following: baked goods, breakfast, vegetables, sandwiches, salads, meats, fish, beverages, soups, and sauces. Other topics include work scheduling and organization, menu planning, purchasing and storage of supplies, and sanitation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 7 semester hours in Food Preparation (9/78).

Towboat Operator (Inland and Oceans 200 miles)

Location: Harry Lundeberg School, Piney Point, MD.

Length: 210 hours (5 weeks, 4 days); residential; includes 20 hours supervised independent study and 24 hours license preparation review.

Dates: April 1973–Present.

Objective: To provide the student with a sufficient understanding of the principles of towboat operators, Coast Guard rules and regulations, and rules of the road (inland and international) to obtain a license as a Towboat Operator.

Instruction: Rules of the road; use of magnetic compass; operation and use of navigational instruments and accessories; tides and currents; emergency signals; use of charts in navigation; aids to navigation; lifesaving and simple first aid; fire-fighting; regulations and law applicable to the operation of a towing vessel; pollution prevention and control. Course leads to licensing as 1st or 2nd class operator of uninspected towing vessels on inland waters or on oceans (not more than 200 miles offshore).

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Navigation (11/77).

Towboat Operator (Western Rivers)

Location: Harry Lundeberg School, Piney Point, MD.

Length: 108 hours (2 weeks, 4 days); residential; includes 10 hours supervised independent study and 16 hours license preparation review; 33 hours lecture/discussion and 7 hours laboratory/workshop per week.

Dates: May 1973–Present.

Objective: To provide the student with a sufficient understanding of towboat operations, Coast Guard rules and regulations, and rules of the road for western rivers to obtain a license as a Towboat Operator.

Instruction: Rules of the road; operation and use of river piloting instruments and accessories; emergency signals; use of river charts; aids to piloting; boatmanship for western rivers; regulations and laws applicable to the operation of a towing vessel; pollution prevention and control. Course leads to licensing as 1st or 2nd class operator of uninspected vessels on western rivers. Lecture and discussion receive more emphasis than hands-on exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in River Piloting (11/77).

Health Insurance Association of America

The Health Insurance Association of America (HIAA), with offices in Chicago, New York, and Washington, is a voluntary trade association whose membership consists of approximately 320 insurance companies which are responsible for about 85% of the United States and 90% of the Canadian health insurance business written by insurance companies. The general purpose of the Association is to promote the development of voluntary health insurance for the provision of sound protection against loss of income and financial burdens resulting from sickness or injury.

The Association sponsors a formal educational program that consists of group and individual health insurance courses designed to give the student a comprehensive knowledge and understanding of the technical as well as the socioeconomic aspects of the health insurance busi-

ness. Achievement in these courses is assessed through a comprehensive examination in each course. Students' principal method of preparation for final examinations is through independent study, with on-the-job experience and, in some instances, classroom instruction, supplementing this study. HIAA provides self-study materials that candidates can use to prepare for the examinations. Course content and examination are constantly reviewed and updated by persons knowledgeable and active in the various specialties of the health insurance business.

Source of official student records: HIAA Education Program, Health Insurance Association of America, 332 South Michigan Avenue, Chicago, Illinois 60604.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

1. Principles of Group Health Insurance I
2. Principles of Group Health Insurance II

Dates: 1. May 1968–Present.
2. May 1968–Present.

Objective: To provide students with an in-depth understanding of the group health insurance (contracts, functions, and operations), its relation to government health programs, and changing patterns of health delivery.

Instruction: Development of group health insurance; analysis of coverages; marketing; underwriting; pricing and rate making; issue and administration; claims; financial analysis of group operations; regulation and taxation; industry organizations; patterns of health care.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Insurance (6/77). NOTE: Since there is overlap between the Group Health Insurance program and the Individual Health Insurance program, a maximum of 4 semester hours should be granted for completion of both.

Version 1: Principles of Individual Health Insurance I and II
Version 2: Individual Health Insurance (Parts A & B)

Dates: *Version 1:* May 1968–August 1978.
Version 2: September 1978–Present.

Objective: To provide students with an in-depth understanding of individual health insurance (contracts, functions, and operations), of the social and economic responsibilities of the industry, and an introduction to the cost and delivery of health care.

Instruction: *Version 1 and 2:* History and development of health insurance; socio-economic aspects of individual health insurance; types of coverage; contracts; marketing; underwriting; claims; premiums and rates; regulation and taxation; government programs (U.S. and foreign); cost, delivery, and financing of health care.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Insurance (6/77). NOTE: Since there is overlap between the Individual Health Insurance program and the Group Health Insurance program, a maximum of 4 semester hours should be granted for completion of both.

Holiday Inns, Inc.

Holiday Inns, Inc., was founded in 1952. Together with its franchisees, it operates some 1700 hotels and motels in over 50 countries around the world. The Holiday Inn System employs over 160,000 people.

The Holiday Inn System is committed to an extensive human resource development effort as a prime factor in maintaining its leadership position in its field.

While training has been offered since 1959, the Holiday Inn System has conducted training at a residential facility in Olive Branch, Mississippi since 1972. All worldwide training is now coordinated through this facility, although courses are taught in major cities around the world.

Source of official student records: Director of Administration, Holiday Inn University, 11200 East Goodman Road, Olive Branch, Mississippi 38654.

Additional information about the course: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Food and Beverage Management

Location: Holiday Inn University, Olive Branch, MS.

Length: 152 hours (4 weeks); residential.

Dates: January 1974–Present.

Objective: To provide the participant with the requisite knowledge and skills to function effectively as a supervisor in a food and beverage operation.

Instruction: Considers the specialized management techniques required of a food and beverage manager. Technical subjects in the areas of foods, beverages, and specialized equipment are considered. The entire food and beverage operation is studied from sales generation through the preparation and service functions. Lecture, discussion, role plays, and laboratory experiences are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Hotel, Restaurant, or Institutional Management (6/77).

Innkeeper Management Program (Survey of Management Operations)

Location: Holiday Inn University, Olive Branch, MS.
Length: 105 hours (3 weeks); residential.
Dates: January 1974–Present.
Objective: To introduce management techniques to innkeepers that will enable them to function more effectively in their management positions.
Instruction: This course is an overview of the various operational processes of innkeeping management. Elements of financial management; problem solving and decision making; principles of management; management of human resources; labor relations; communications and marketing; product and facilities management; other elements of hotel operations. Lecture, discussion, programmed instruction, role play, audio-visuals, and case studies are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Hotel Management (6/77).

1. Principles of Professional Salesmanship
2. Sales Call Techniques

Location: Holiday Inn University, Olive Branch, MS; and other locations as necessary.
Length: 1. 32 hours (1 week); residential.
2. 22 1/2 hours (1 week); residential.
Dates: 1. August 1974–Present.
2. August 1976–Present.
Objective: To present the participant with a systematic approach to planning an effective sales effort.
Instruction: Builds upon the basic concepts of salesmanship such as psychology, sales stimulation and communications. Utilizes role-play techniques to demonstrate the application of basic sales process.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in General Sales or Hotel, Restaurant, or Institutional Management (6/77). NOTE: Both courses must be completed in order to receive credit.

(Solving Performance Problems)
1. Performance Analysis Workshop
2. Managing the Performance System

Location: Holiday Inn University, Olive Branch, MS; and other locations as necessary.
Length: 1. 21 hours (3 days).
2. 20 hours (3 days).
Dates: January 1977–Present.
Objective: To provide management personnel with the knowledge and skills necessary to apply problem-analysis strategies to human performance problems and to recommend and implement cost-effective solutions.
Instruction: System for analyzing human performance problems. Identifying or isolating performance problems; determining the value of correcting the problems; determining the causes of the problems, including lack of knowledge and factors in the work environment; selecting strategies for solving the problems. Individual work combined with case studies and group discussions. Course 2 reinforces the material presented in Course 1 with practical exercises.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Hotel, Restaurant, or Institutional Management (6/77). NOTE: Both courses must be completed in order to receive credit.

The Institute of Financial Education

The Institute of Financial Education is the educational affiliate of the United States League of Savings Associations. The league is the national trade association serving the savings association business.

The Institute provides multi-level professional education and training programs for savings association personnel involved in both operations and management functions. Programs are delivered through correspondence instruction, in-house training, resident schools, and a network of 220 local Chapters. These programs are designed to help savings association personnel obtain the knowledge, skills, and attitudes needed for efficient functioning in the various departments of a savings association.

The courses listed below constitute those required for the Institute's three diploma programs: the Certificate of Achievement, the Diploma of Merit, and the Degree of Distinction. The three programs represent a building process which begins with introductory technical business courses (Certificate), proceeds to specific technical business courses (Diploma) and ends with those broader conceptual courses (Degree) which enable students to become effective managers. Human relations and communication courses are required on the first two levels as necessary to performing effectively in a service-oriented, high-customer-contact business. On the third level, personnel management is required to familiarize the student with the basic concepts of supervision and management.

The credit recommendations for the courses listed below apply to all chapters. Consistency is insured through the central development of course materials and examinations. The Institute also provides chapters with guidelines for the selection and evaluation of instructors.

The credit recommendations also apply to the correspondence versions of each of the courses listed below. An optional proctored final examination was instituted in May 1978 for students taking the correspondence course and wishing to apply for academic credit. Students completing

the courses prior to that date may also take the proctored final examination to be eligible for credit. Successful completion of the proctored examination is indicated on the student's record. This examination should not be confused with the open-book final examination which is completed at home by all students taking the correpondence courses.

Source of official student records: Manager of Scholastic and Membership Records; the Institute of Financial Education, 111 East Wacker Drive, Chicago, Illinois 60601.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Communication Skills for Business: Talking and Listening (066)

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: August 1975-Present.
Objective: To provide an understanding of the basic elements of communication and to introduce the skills necessary to interact in a business setting.
Instruction: Covers the elements of interpersonal communications and discussion skills, with emphasis on speech communication and society, messages and meanings, feedback, nonverbal communication, attention and listening, decision-making, barriers and breakdowns, persuasion, conflict, troubled talk, and skill building. Methodology includes lecture, discussion, small group interaction, and role playing.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Communications (4/77).

1. Economics I (024)
2. Economics II (025)

Location: Chapters, nationally.
Length: 48 hours (24 weeks).
Dates: September 197[illegible]-Present.
Objective: To provide students with an understanding of the basic terminology of economics and to familiarize them with the theories of choice, economic motivation, market structure, inflation and unemployment.
Instruction: Introduction to supply and demand; scarcity and utilization of economic resources; the price system; income and expenditure flow. Also covered are goals of full employment and price stability, investment and consumption, money and banking, monetary and fiscal policy, and theories of economic growth. Methodology includes lecture, discussion and classroom exercises.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Economics. NOTE: Courses 1 and 2 must be completed in order to receive credit.

Effective Business Writing I

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: September 1974-Present.
Objective: To provide an understanding of the concepts, form and style used in writing effective business correspondence and reports.
Instruction: Covers principles of writing, punctuation and sentence structure. The following types of letters are examined: Friendly, Bad News, Persuasive Requests, Collection, and Goodwill. Additionally, effective reports and direct requests are reviewed. Methodology includes lecture, discussion, writing practice, and analysis.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Written Communications (4/77).

Effective Speaking (019)

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: September 1974-Present.
Objective: To introduce fundamental speaking skills and to provide the student with practice to become an effective and confident speaker.
Instruction: Barriers to communication with an audience; controlling stage fright; speech delivery; composing speeches; types of speeches; group discussion. Students organize, present, and evaluate informative and persuasive speeches and speeches for special occasions.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications (4/77).

1. Financial Institutions I (030)
2. Financial Institutions II (031)

Location: Chapters, nationally.
Length: 48 hours (24 weeks).
Dates: September 1972-Present.
Objective: To provide an understanding of financial agencies and institutions and the processes involved in money and credit flow.
Instruction: Covers financial and monetary institutions and their interrelationships and influence on money and capital markets; examines corporate financial policies and practices as well as business and consumer finance. Methodology includes lecture and discussion.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Financial Institutions (4/77). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Human Relations in Business (061)

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: September 1975–Present.
Objective: To provide the student with an introduction to Business Psychology and personal adjustment.
Instruction: The psychology of work; motivation theory; social interaction; personality development; conflict, frustration and stress; self-awareness, behavior modification, and group dynamics. Methodology includes lecture, discussion, case problems, and group interaction.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in General Psychology (4/77).

Introduction to the Savings Association Business (060)

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: September 1973–Present.
Objective: To provide an introductory understanding of the business world with an emphasis on the role of savings associations in that environment.
Instruction: Forms of business organization; the modern business enterprise; the Federal Reserve and Federal Home Loan Bank systems; introduction to computer technology; securities markets; financial intermediaries; the savings and investment processes. Emphasized throughout are the history and expansion of savings associations, and the role of savings associations in the business community and society. Methodology includes lecture and discussion.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Introduction to Business (4/77).

1. Real Estate Principles I (015)
2. Real Estate Principles II (016)

Location: Chapters, nationally.
Length: 48 hours (24 weeks).
Dates: September 1976–Present.
Objective: To provide the student with a foundation in the legal, economic and governmental aspects of real estate.
Instruction: An examination of principles and practices of real estate relative to the savings association business. Includes a study of real estate administration, the process of making and implementing real estate decisions, evaluation principles, analysis of location, and land use. Also included are subdivision and land development, property management, instruments of financing, mortgage lending, and urban and rural development. Lecture, discussion and classroom exercises are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Real Estate Principles (4/77). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

1. Savings Accounts Administration (009)
2. Savings Accounts (008)

Location: Chapters, nationally.
Length: 48 hours (24 weeks).
Dates: September 1974–Present.
Objective: To provide an understanding of the solicitation, maintenance and administration of savings funds from a legal perspective.
Instruction: Provides an analysis of the contractual and legal nature of savings accounts. Types of ownership and types of savings accounts; insurance of proxy procedures; savings accounts; loans secured by savings accounts; dormant or inactive accounts; accounts of decedents; savings account terminology; additional services to savers. Emphasis is placed on an analysis of savings department services. Methodology includes lecture and discussion.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in General Business Savings Association Operations (4/77). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Savings Association Operations (062)

Location: Chapters, nationally.
Length: 24 hours (12 weeks).
Dates: June 1977–Present.
Objective: To introduce the role of savings associations in the modern business world with emphasis on theory and practice of internal operations.
Instruction: The savings function; operations of the savings department; the lending function; operations of the loan department; additional association services; accounting operations; internal auditing, electronic data processing, and other support services; personnel functions and processes; marketing elements and concepts; management principles in action. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in General Business (4/77).

1. Supervisory Personnel Management I (047)
2. Supervisory Personnel Management II (048)

Location: Chapters, nationally.
Length: 48 hours (24 weeks).
Dates: September 1976–Present.

Objective: To provide students with an understanding of organization and behavior theory and practice necessary to enable them to become effective supervisors.

Instruction: Content is developed within the framework of the five managerial functions of planning, organizing, staffing, directing and controlling. Role of the supervisor; effective decision making; employee need satisfaction; responsibility and delegation; time management skills; hiring practices and employee appraisal; motivation and control techniques for managerial personnel.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/77). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Insurance Educational Association

The Insurance Educational Association (IEA) is a voluntary, non-profit corporation, supported by the property/liability industry. Its purpose is to help meet the educational and training needs of the western insurance community.

The IEA provides students with professional preparation necessary for a successful career in the insurance industry. Additionally, continuing education is provided for persons active within the insurance business.

Courses offered may lead to preparation for national examinations offered by the American Institute for Property and Liability Underwriters/Insurance Institute of America. Other specialized, technical classes are offered, and may apply toward the IEA's certificate and diploma programs. The latter include (1) the Professional Diploma Program, (2) Property Insurance Certificate, (3) Casualty Insurance Certificate, and (4) Workers' Compensation Claims Certificate.

IEA is approved by the California State Superintendent of Public Instruction, and all instructors are licensed through their office. The association provides seminars, workshops, self-instructional courses, and special programs in all aspects of insurance, from basic indoctrinary courses to advanced technical and managerial studies.

Source of official student records: Northern California—Insurance Educational Association, 300 Montgomery Street, San Francisco, California 94104. Southern California—Insurance Educational Association, University Plaza, 4500 Campus Drive, Newport Beach, California 92660.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

NOTE: To be eligible for credit, students should receive at least a grade of "C".

Automobile Insurance (CA3)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1968–Present.
Objective: To provide a survey of the basic automobile insurance coverages.
Instruction: Analysis of the family auto policy, the basic auto policy, the personal auto policy, and the garage liability policy. Lecture and class discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Insurance (6/78).

Casualty Insurance (INS23)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1970–Present.
Objective: To provide concepts peculiar to the common casualty, surety, and multiple-line contracts. Primary emphasis is placed on understanding coverages and policy provisions.
Instruction: Contracts studied include the Family Automobile Policy; Workers' Compensation and Employers' Liability Policy; Owners', Landlords', and Tenants' Liability Policy; Comprehensive General Liability Policy; comprehensive personal liability coverage, life and health insurance coverages; the liability insurance aspects of modern multiple-line contracts.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Casualty Insurance Coverages (CA4)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1977–Present.
Objective: To provide a basic survey of casualty insurance coverages and forms.
Instruction: Casualty rules, manuals, classifications and rating. Coverages include Owners, Landlords and Tenants, Manufacturers and Contractors, Contractual, Protective, Products, Completed Operations, Blanket Contractual, Broad Form Property Damage, Fire Legal Liability, Crime and Fidelity Coverages.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Insurance (5/78).

Commercial Inland Marine (PR21)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).

Dates: January 1968–present.
Objective: To provide an understanding of commercial inland marine forms and coverages, including underwriting and rating.
Instruction: Definitions of Marine Insurance, Basic Inland Marine Coverages, Transportation Insurance, Transit Insurance Coverage, Motor Truck Cargo Insurance, Air Cargo, Instrumentalities of Transportation, Time Element Coverages, Dealers Insurance, Bailees and Bailees Customers Coverage, and Contractors Equipment.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Insurance (6/78).

Commercial Multi-Peril Package Policies (MU31)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: February 1971–Present.
Objective: To provide an in-depth analysis of commercial multi-peril package policy forms and underwriting.
Instruction: Actual cash value versus replacement cost, demolition coverage, SMP programs and eligibility, time element coverages, liability underwriting, crime, boiler and machinery, property underwriting.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Fire Protection Engineering (PR30)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: February 1976–Present.
Objective: To provide a basic understanding of fire protection engineering.
Instruction: Automatic sprinkler systems; portable fire extinguishing equipment; special extinguishing systems such as Halon 1301; carbon dioxide and hi-ex foam; water supply systems and hydraulic analysis; fire pumps; signal systems; building construction and facilities; special hazards evaluation and control.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Fire Protection or Insurance (5/78).

Fire Protection Engineering (Phase II) (PR30A)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: February 1977–Present.
Objective: To provide an advanced understanding of fire protection engineering.
Instruction: An advanced course covering high rise protection, arson, radiation hazards, heat and smoke detectors, transportation fire hazards, fire hazards during earthquake and flood. Analysis of the chemistry and physics of fire protection engineering.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Insurance or Fire Protection (5/78).

Law of Torts (LA1)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1969–Present.
Objective: To provide an understanding of the basic principles of tort law.
Instruction: Intentional torts; proof of negligence; breach of duty; causation; proximate cause; damages; defenses; imputed negligence; survival and wrongful death; joint tortfeasors; owners and occupiers of land; strict liability; products liability. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Law or Insurance (6/78).

Liability Insurance Adjusting (ADJ36)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1969–Present.
Objective: To provide an understanding of the concepts of legal duty, breach of legal duty, doctrine of proximate cause, and the evaluation of damages and to explore the basis of legal liability; the investigation and disposition of liability claims.
Instruction: Introductory material on medical knowledge needed by adjusters; study of adjuster-lawyer and adjuster-physician relationships; special problems regarding the settlement of Workers' Compensation claims. Investigation and evaluation problems are examined at a more advanced level than previous courses in the program. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business, Business Law, or Insurance (6/78).

Liability Insurance (Advanced) (CA5)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1972–Present.
Objective: To provide an advanced survey of casualty insurance coverage, forms, and underwriting.

Instruction: Coverage, forms, and underwriting of Comprehensive General Liability, including Products and Completed Operations, Broad Form Property Damage, Contractual, Personal Injury, and the implications of recent contract changes.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Insurance (5/78).

Management and Human Resources (MGT42)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1968–Present.
Objective: To provide an understanding of human behavior within an organization.
Instruction: Utilizes the behavioral sciences to provide analytical tools for the study of behavior in organizational settings. A series of cases assists in the development of skills in diagnosing "people problems" and determining effective ways of responding to them as a manager. Emphasizes the development of practical solutions to problems affected by human considerations. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (6/78).

Management in a Changing World (MGT44)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1968–Present.
Objective: To examine management decision-making within the context of broad social and political considerations.
Instruction: The political and social environment and the constraints which it places on management; trends in management practices and emerging concepts about the management of human and technological change. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (6/78).

Managerial Decision-Making (MGT43)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1968–Present.
Objective: To acquaint students with modern decision-making tools and techniques.
Instruction: Develops a systematic framework for the evaluation of decisions. Particular attention is given to the sources of error in decision-making. Study of the individual and organizational decision-making process, and the role of the computer in an organization. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (6/78).

Medical Management of Workers' Compensation Claims (CA12)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1974–Present.
Objective: To provide students with the ability to recognize and define medical word roots, prefixes, suffixes, and related disease and operative terms.
Instruction: An introduction to medical language, anatomy, and physiology. This course prepares the student to understand and process Workers' Compensation medical claims. Series of lectures by medical injury specialists and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Insurance or Medical Technology (5/78).

Personal Lines Insurance (MU32)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: March 1975–Present.
Objective: To provide the student with a survey of personal lines forms, coverages, and underwriting.
Instruction: The Homeowners, including an analysis of the Comprehensive Personal Liability portion, Family Auto Policy, and Personal Articles Floaters. Analysis of the underwriting of homeowners and auto policies, including considerations of brush and national board classifications.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Insurance (5/78).

Personal Lines Underwriting (UND62)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1978–Present.
Objective: To provide an understanding of the underwriting of personal lines of property liability insurance.
Instruction: Underwriting personal auto, homeowners, comprehensive personal liability, personal umbrella, personal articles floaters, and other personal lines. The application of the underwriting principles developed in the preceding course, Underwriting UND61. Lectures and discussions are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Insurance (5/78).

Principles of Insurance (INS21)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1970–Present.
Objective: To provide an understanding of the basic principles of insurance as well as the nature and operation of the insurance business.
Instruction: Analyzes the use of probability distributions; indemnity; insurable interest; co-insurance; subrogation; proximate cause; requisites of insurable risk; use of deductibles; valued policies. Insurance company operations such as rate making, underwriting, marketing, and adjusting. Government regulations; reinsurance; functions of insurance agents and brokers; historical development of the insurance mechanism; organization of insurance entities.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Principles of Insurance and Liability Claim Adjusting (ADJ32)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: May 1970–Present.
Objective: To introduce basic liability claim adjusting and the human behavioral response.
Instruction: The functional areas of rating and underwriting, as well as the subjects of regulation, reinsurance, and company organization are explored. Includes legal liability hazards and the investigation, evaluation, negotiation, and settlement of bodily injury and property damage claims. Emphasizes adjustment of automobile liability and physical damage claims and losses. Introduces fundamental concepts of the no-fault approach to automobile insurance reform. Special attention is devoted to the subject of understanding human behavior of claimants. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business, Business Law, or Insurance (6/78).

Principles of Insurance and Property Loss Adjusting (ADJ31)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: January 1970–Present.
Objective: To examine the basic principles of insurance and the fundamental areas of property loss adjusting with emphasis on the adjustment of personal property losses.
Instruction: Emphasizes property loss adjustment procedure, including investigation, negotiation, and settlement. Determination of coverage, value, and loss is included. Attention is given to estimating building losses and construction costs along with reporting procedures. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business, Business Law, or Insurance (6/78).

Principles of Property and Liability Underwriting (UND61)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: February 1977–Present.
Objective: To introduce students to underwriting decision-making on two levels: individual risk underwriting and the underwriting management of a company's entire operation.
Instruction: A discussion of the underwriting function, its nature, purpose, and organization, is followed by an analysis of the underwriting decision-making process. Underwriting and fundamentals including coverage analysis; loss control; reinsurance; necessary numerical tools; financial analysis and pricing are also examined.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Insurance (5/78).

The Process of Managment (MGT41)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1968–Present.
Objective: To introduce the student to the study of management and managerial problem-solving.
Instruction: Major functions in the management process: organization, motivation, planning and control; analytical tools used by managers. Cases based on actual organizational experience are used to apply concepts in solving management problems. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (6/78).

Property Insurance (INS22)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1970–Present.

Objective: To provide an understanding of coverages, policy provisions and concepts common to property insurance.

Instruction: Study of contracts and forms including the standard fire policy, extended coverage endorsements, dwelling and contents form, building and contents form, bailees' customers policy, and property coverage provided by multiple-line contracts.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Property Insurance Adjusting—Advanced (ADJ35)

Location: Various locations throughout California.

Length: 30 hours (13 weeks).

Dates: January 1970–Present.

Objective: To provide in-depth information on the subject of apportionment, insurable interest, loss estimation, and limitations on the amount of insurer's liability (including replacement cost and contribution).

Instruction: Adjustment of building losses (including valuation); merchandise and fixture losses; reporting form losses; business interruption insurance losses. Lecture and discussion are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business, Business Law, or Insurance (6/78).

Property Insurance Coverages (PR20)

Location: Various locations throughout California.

Length: 30 hours (13 weeks).

Dates: September 1977–Present.

Objective: To provide an understanding of commercial property forms and coverages, including direct and consequential loss.

Instruction: Standard fire policy, extended coverage forms, sprinkler leakage, earthquake, flood contingent loss from operation of building laws, and business interruption.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Insurance (5/78).

Risk Control (RM55)

Location: Various locations throughout California.

Length: 30 hours (13 weeks).

Dates: February 1972–Present.

Objective: To provide information on best use of risk management techniques which minimize the financial consequences of a casualty loss: risk avoidance, loss prevention or reduction, and risk transfer to noninsurance organizations.

Instruction: Describes when and to what extent each risk control technique should be employed, how each should be administered, and how each should be monitored for the control and coordination of the total risk management effort. Students use guidelines for selecting risk management techniques.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Insurance (5/78). NOTE: To be eligible for credit at the graduate level, the student should receive at least a grade of "B".

Risk Financing (RM56)

Location: Various locations throughout California.

Length: 30 hours (13 weeks).

Dates: September 1973–Present.

Objective: To complete the risk management decision-making process with respect to risk financing techniques, concentrating on the selection, implementation, and monitoring of the methods by which an organization can obtain funds to minimize the financial consequences of a casualty loss.

Instruction: Course emphasizes risk retention and commercial insurance. The financial guidelines from Risk Management 54 are applied to such topics as setting the amounts of self-insured retention, negotiating with admitted and nonadmitted insurers, and coordinating self-insurance with commercial insurance.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Insurance (5/78). NOTE: To be eligible for credit at the graduate level, the student should receive at least a grade of "B".

Structure of the Risk Management Process (RM 54)

Location: Various locations throughout California.

Length: 30 hours (13 weeks).

Dates: February 1972–Present.

Objective: To introduce exposure identification and evaluation into the risk management decision-making process and to lay the financial management foundation for choosing the best risk management alternative. Students should be familiar with the objectives of a business organization and the principles of general management.

Instruction: Procedures for identifying and analyzing property, income, liability, and personnel loss exposures; general characteristics of the various risk control and risk financing techniques; guidelines for selecting the most appropriate risk management techniques for each exposure. These guidelines demonstrate how proper risk manage-

ment helps to achieve the organization's overall profits and productivity.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Insurance (5/78). NOTE: To be eligible for credit at the graduate level, the student should receive at least a grade of "B".

Surety Bonding (BO 1)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1973–Present.
Objective: To introduce the basic principles and nomenclature of suretyship.
Instruction: Basic principles of suretyship: judicial, license and permit, contract, and miscellaneous surety. Basic financial statement analysis, underwriting approaches and fundamentals are studied from the standpoint of the underwriter and producer. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Insurance (6/78).

Workers' Compensation—Advanced (CA9A)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1974–Present.
Objective: To develop decision-making abilities in dealing with Workers' Compensation insurance plans.
Instruction: General rules; classification procedures; premium calculations; experience rating plans; administration of Workers' Compensation boards and bureaus; state funds; assigned risk plans. This course is built on the basic concepts presented in CA9. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Insurance (6/78).

Workers' Compensation (Basic) (CA9)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1972–Present.
Objective: To introduce the basic concepts of Workers' Compensation Insurance.
Instruction: Fundamentals of Workers' Compensation; analysis of the policy forms, LS and HW, Jones Act, Rules, Rates, and Classification. Lecture and discussion are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Insurance (5/78).

Workers' Compensation Claims (Advanced) (CA11)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: February 1975–Present.
Objective: To provide coverage at an advanced level of current case law involved with employment, injury, and permanent disability.
Instruction: Functioning of the Worker's Compensation Appeals Board; analysis of current case law concerning compensable injuries; degree of disability; rehabilitation. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Workers' Compensation Claims (Basic) (CA10)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1974–Present.
Objective: To provide a basic understanding of the Workers' Compensation claims process.
Instruction: Workers' Compensation insurance claims adjusting; investigation required to determine application of the law and its interpretation; payment of benefits; subrogation. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Insurance (5/78).

Workers' Compensation Rehabilitation (CA14)

Location: Various locations throughout California.
Length: 30 hours (13 weeks).
Dates: September 1977–Present.
Objective: To provide an understanding of the administration of the Workers' Compensation Rehabilitation program as outlined in the Rules and Regulations.
Instruction: History and concept; organization and authority; due process; qualifying the injured worker; role of the rehabilitation representative; evaluation, testing and plan maintenance. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Health Care Administration or Insurance (6/78).

International Union of Operating Engineers Local 57

The Operating Engineer Apprentice program is offered by the International Union of Operating Engineers Local 57 to train people for heavy equipment operation in the construction industry. The program is sponsored jointly by Lo-

cal 57 and representatives of the construction industry in Rhode Island. It is open to the entire community with emphasis on veterans and the disadvantaged, along with strong affirmative action for minorities.

To receive journeyman status, operating engineer apprentices must complete the entire three-year program which each year consists of 180 hours of classroom instruction, a practicum of 288 hours, and 2000 hours of on-the-job training.

Source of official student records: Administrator, Apprenticeship and Skill Improvement Program, International Union of Operating Engineers, 141 Cano Street, Providence, Rhode Island 02906.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington D.C. 20036.

Operating Engineer Apprentice

Location: International Union of Operating Engineers Local 57, Providence, RI; practicum site at Johnson, RI. Job sites in the Providence area.

Length: Three years.

Dates: October 1972-Present.

Objective: To prepare an operating engineer apprentice for journeyman status in the construction industry and to perform all of the functions of the occupations of heavy-duty equipment repairman, universal equipment operator, grading and paving operator, and plant equipment operator at the entry level for journeymen.

Instruction:

First Year: Identification of the types, characteristics, and major components of internal combustion engines; basics of fuel systems from tank to combustion chamber; basics of air-handling systems; methods of cleaning and filtering blowers, compressors, turbines, and superchargers; maintenance of air and exhaust systems; functions of a liquid-cooling system during summer and winter operations; maintenance of engine-cooling systems; identification of the components of the automotive electrical system; introduction to the principles, functions, and operation of transmissions, clutches, and final drives and their preventive maintenance; basic components of tracks and undercarriages and their maintenance; tire tread designs and their uses; tire maintenance; identification of power train systems and components of construction equipment; preventive maintenance of power trains; identification of component parts of a single-plate, multiple-disc, and jaw clutches; fluid couplings and the requirements for preventive maintenance and lubrication; properties of steam, boiler ratings, and use of steam power in the construction industry; basic mathematics, including decimals, fractions, ratios, volumes, and metric conversion; introduction to the history of the labor movement, history of the International Union of Operating Engineers, and the theory of labor management, practices, and relations; types of construction equipment, major components of each type, performance of preventive maintenance on each type; theory and practice in welding, including reasons for welding, types of metals, correct gauge settings, and preparation of acetylene and electric equipment for welding; repair of worn parts; introduction to hydraulics and pneumatics used in the construction industry, including Pascal's law, types and makes of air compressors, and the difference between volume and pressure; use of hand and power tools used in the construction industry; operation, adjustment, and servicing of pumps, pumping equipment, mechanical heaters, air compressors, and other auxiliary equipment; types of fiber and wire rope, materials from which they are made, and determination loads they can safely handle; identification of types of hooks, clamps, and shackles; reading and checking grade stake markings; principles of earth moving; plan reading; identification of types of soils; reasons for soil compaction and procedures for compaction of various materials; types of drainage systems used in the construction industry and appropriate use of each type; types of fuels used in the construction industry; introduction to types and specifications of lubes and use of each type; familiarity with the basic hand signals used in the construction industry; qualification to obtain a Red Cross first aid certificate.

Second Year: Removal and repair of clutches; removal and installation of transmissions; removal, replacement, and adjustment of final drives, axles, gears, bearings, and oil seals; valve adjustment; compression checks; timing of injection system; preventive maintenance of cylinder heads, cylinder blocks, and liner; checking and timing electrical systems; checking thermostats and pressures on cooling systems; technical applications of algebra, geometry, and trigonometry; application of the principles and functions of hydraulics and pneumatics learned in the classroom in the first year; introduction to the equipment commonly used in road, bridge, and airport paving; types of rock crushers and their use; role of the operating engineer in operating each unit; types of batch plants, and their major components, and preventive maintenance; how plant is fed and how concrete is produced; controls and operating procedures for various types of asphalt plants and auxiliary equipment; lubrication and preventive maintenance of asphalt plants and auxiliary equipment; basic design, operation, and related safety practices and procedures of all revolving construction equipment (cranes, elevators, shovels, and backhoes); under supervision, operation of earth-moving equipment at an advanced level; ingredients, weights, and strengths of various mixes of concrete and where each mix is used; reading and interpretation of plans, drawings, and specifications used in the construction industry; soil testing; methods of compacting soils; fundamentals of moisture control, lifting heights, compaction speeds, weight of down pressure, and number of horizontal moves (runs) needed for various soils; complete coverage of hand signals, warning signs, and local and federal O.S.H.A. rules and regulations used in the construction industry; under supervision, operation, servicing, and maintenance of general construction equipment.

Third Year: Rebuilding of pressure plates and relining of clutch discs; rebuilding of transmissions and steering clutches; installation of bearings and oil seals; inspection, adjustment, and replacement of differential gears; adjustment, servicing, and repair of air compressors, brake applicators, valves, and regulators; removal and replacement of various parts of cylinder blocks and cylinder heads; repair of starters and generators; adjustment of voltage regulators; repair fuel pumps and carburetors; servicing of fuel-servicing systems; repair and servicing of hydraulic systems, including cylinders, valves, and power control units; operation and servicing of grade and paving equipment; use of various welders and welding equipment. Students begin to operate and service equipment used in asphalt plants, batch plants, and crushing, screening, and washing plants; begin to operate and assist in the major overhaul of revolving construction and related equipment; rig and operate attachments used on universal equipment; operate and maintain pumping equipment, including pump crete machine, concrete pump, and gunite machine. Completion of requirements for journeyman certification.

Credit recommendation, *First Year:* In the vocational certificate category or in the lower division baccalaureate/associate degree category, 2 semester hours in power sources (gas, diesel, steam), 2 in Welding (theory and practice), 2 in General Construction Practices (rigging, soil compaction, drainage, hand and small power tools, grades and stakes, fuels, oils and lubricants), 1 in Power Trains (clutches, transmissions, and final drives), 1 in Orientation to Construction Equipment and Components, 1 in Introduction to Hydraulics and Pneumatics, and 1 in Labor History, for a total of 10 semester hours (9/77).

Credit recommendation, *Second Year:* In the vocational certificate category or in the lower division baccalaureate/associate degree category, 4 semester hours in General Construction Practices (rigging, soil compaction, drainage, hand and small power tools, grades and stakes, fuels, oils and lubricants), 3 in Power Sources (gas, diesel, steam), 3 in Power Trains (clutches, transmissions, and final drive), 2 in Technical Mathematics, 2 in Welding (theory and practice), 1 in Introduction to Hydraulics and Pneumatics, 1 in Applied Technology of Hydraulics and Pneumatics, 2 in Paving Materials Processing Plants, 2 in Revolving Equipment Operation (cranes, elevators, backhoes), 2 in Earth-moving Equipment Operation, 2 in Supervised Construction Equipment Operation, 2 in Supervised General Maintenance (preventive), 2 in Supervised Basic Equipment Repair, 1 in Orientation to Construction Equipment and Components, 1 in Labor History, and 1 in Introduction to Paving Equipment (asphalt and concrete equipment), for a total of 31 semester hours (9/77).

Credit recommendation, *Third Year:* In the vocational certificate category or in the lower division baccalaureate/associate degree category, 5 semester hours in General Construction Practices (rigging, soil compaction, drainage, hand and small power tools, fuels, oils and lubricants), 3 in Power Sources (gas, diesel, steam), 3 in Power Trains (clutches, transmissions, and final drives), 3 in a practicum in Repair of Heavy-duty Equipment and Components, 3 in Welding (theory and practice), 2 in Analysis of Power Delivery Systems, 2 in Technical Mathematics, 2 in Paving Materials Processing Plants, 2 in Revolving Equipment Operation (cranes, elevators, backhoes), 2 in Earth-moving Equipment Operation, 2 in a practicum in Construction Equipment Operation, 2 in Advanced Equipment Operation, 2 in Supervised General Maintenance (preventive), 2 in Supervised Basic Equipment Repair, 2 in Advanced Applied Hydraulics and Pneumatic Technology, 1 in Introduction to Hydraulics and Pneumatics, 1 in Applied Technology of Hydraulics and Pneumatics, 1 in Orientation to Construction Equipment and Components, 1 in Introduction to Paving Equipment (asphalt and concrete equipment), 1 in Applied Physics (basic statics), 1 in Theory of Repair of Power Sources (gas, diesel, steam), 1 in Theory of Construction Equipment Operation, 1 in Construction Equipment Engineering, 1 in General Surveying (hand level), 1 in Labor History, and 1 in Theory of Labor Management, for a total of 48 semester hours. (9/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Jerrico Corporation

Jerrico, Inc. and its subsidiaries operate, franchise, and service Long John Silver's Seafood Shoppes and Jerry's Restaurants, and sell food, supplies, and restaurant equipment.

The Jerrico Management Academy serves the educational and training needs of Long John Silver's and Jerry's Restaurant Operations and support functions. It is a residential facility located on the campus of Transylvania University in Lexington, Kentucky.

The Academy's staff is responsible for the design of courses for delivery at the Academy and in the field. Field training occurs in Phases I and II of the Basic Management Program (listed below) under the direction of training managers who have successfully completed the "Train the Trainer" course. The delivery of field training is under the control of the Management Academy.

Source of official student records: Vice President of Training, Jerrico Management Academy, P.O. Box 11988, Lexington, Kentucky 40579.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Basic Management Training Program

The Basic Management Training Course is a three-phase program for Management trainees in Long John Silver's restaurants. The Phase I program takes place in an approved training restaurant under the supervision of a restaurant

manager who has been trained as a field instructor. The Phase II program is also conducted at a Long John Silver's restaurant, and is devoted to the identification and mastery of seventeen management tasks. The third phase is a one or two-week residential phase conducted at the Jerrico Management Academy. The one-week version of Phase III is attended by trainees who have successfully completed Phases I and II. Trainees who have not attended Phases I and II attend the two-week version of Phase III, which includes topics covered in the first two phases of the program.

The program is oriented towards competency-based learning and students are assessed on the basis of performance in specific areas.

Basic Management Training Program

1. **Phase I**
2. **Phase II**
3. **Phase III**

Location: 1. Long John Silver Training restaurants.
2. Long John Silver restaurants.
3. Jerrico Management Academy, Lexington, KY.

Length: 1. 120 hours (3 weeks).
2. Self-paced over 3 weeks.
3. 72 hours (2 weeks); residential.

Dates: *Courses 1 and 2:* July 1976–Present.
Course 3: September 1977–Present.

Objective: To provide managerial candidates with basic operational and managerial skills to direct a single unit food service operation.

Instruction: The food service production component provides the skills necessary to the efficient operation of a limited-menu facility, including methods of food preparation, portion and cost control, and equipment maintenance. The management component provides an introduction to productivity, communications, leadership, motivation, scheduling, and problem solving.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Quantity Food Production *and* in the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management (10/77). NOTE: All three courses must be completed in order to receive credit.

Basic Management Training Program, Phase III (Two-week Program)

Location: Jerrico Management Academy, Lexington, KY.

Length: 72 hours (2 weeks); residential.

Dates: March 1977–Present.

Objective: To provide managerial candidates who have not attended Phases I and II with basic operational and managerial skills for a single unit food service facility.

Instruction: Productivity; communications; leadership; motivation; scheduling; problem solving. Emphasis is on human relations.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management (10/77).

Supervisory Development Course

Location: Jerrico Management Academy, Lexington, KY.

Length: 40 hours (1 week); residential, approximately 10 hours evening sessions.

Dates: September 1977–Present.

Objective: To provide managers who have responsibility for several food service operations with the skills to develop, implement, and control performance standards.

Instruction: Using an action plan, participants establish and evaluate performance standards. Topics covered include organizing, planning, leading, directing, and controlling. Methodology includes role-playing, discussion, and small group exercises.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (10/77).

Train the Trainer

Location: Jerrico Management Academy, Lexington, KY.

Length: 40 hours (1 week); residential, approximately 10 hours evening sessions.

Dates: February 1976–Present.

Objective: To provide the manager with an understanding of his or her role and responsibility as a trainer of personnel.

Instruction: Development of training skills through role playing, discussion, lesson plan writing, and small group work. Emphasis on analyzing subject matter and application of education principles.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Education, Management, or Personnel (10/77).

Jet Propulsion Laboratory

The Jet Propulsion Laboratory is a research and advanced development organization operated by the California Institute of Technology to support unmanned space projects and related science for the National Aeronautics and Space Administration. The laboratory employs about 4,000 persons and occupies 173 acres.

Professional development has conducted on-lab supervisory courses since 1964 to assist employees to accelerate their professional and managerial career development. The courses are designed to help individual employees perform more effectively on current jobs, prepare for new jobs, and gain greater personal satisfaction from their work.

Source of official student records: Manager of Salary Administration and Employee Records, Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, California 91103.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

(Behavioral Concepts)
1. The Psychology of Leadership
2. The Counseling Relationship
3. Adventures in Insight

Location: Pasadena, CA.
Length: 1. 16 hours (4 weeks).
2. 16 hours (4 weeks).
3. 16 hours (4 weeks).
Dates: June 1978–Present.
Objective: To provide students with basic concepts and skills in leadership, counseling, and self-awareness.
Instruction: Working in teams, the students engage in exercises designed to identify leadership style and counseling skills—special emphasis on the development of personal insights. A laboratory approach, using small group discussions, self-testing and role playing, is combined with lectures and videotape playback.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Psychology (6/78). NOTE: All three courses must be completed in order to receive credit. Student must successfully complete optional assessment.

Career Planning

Location: Pasadena, CA.
Length: 16 hours (7 weeks).
Dates: June 1978–Present.
Objective: To develop self-awareness relative to career goals and options.
Instruction: Planning and problem solving; risk taking; self-validation, conflict resolution. The course involves lecture, discussion, self-evaluative questionnaires, and a personal log.
Credit recommendation: In the associate degree category only, 1 semester hour in Psychology (6/78).

Effective Negotiating

Location: Pasadena, CA.
Length: 18 hours (6 weeks).
Dates: June 1978–Present.
Objective: Provide the student with an understanding of, and skills in, effective oral persuasion.
Instruction: Oral arguments; contract negotiations; target setting; planning. Lecture, discussion, classroom exercises, cassettes and videotapes are used.
Credit recommendations: In the upper division baccalaureate category, 1 semester hour in Communication (6/78). NOTE: Students must successfully complete optional assessment.

1. Elements of Supervision
2. Supervisory Techniques
3. Supervision for Professionals (Introduction to Organizational Behavior)

Location: Pasadena, CA.
Length: 1. 16 hours (4 weeks).
2. 16 hours (4 weeks).
3. 16 hours (4 weeks).
Dates: June 1978–Present.
Objective: *Courses 1 and 2:* To provide the student with an understanding of the duties and responsibilities of a supervisor. *Course 3:* To acquaint students with the basic concepts, principles, and practices relative to understanding organizational behavior.
Instruction: *Courses 1 and 2:* Principles of supervision (planning, decision making, communicating, delegating, and problem solving); selection, orientation, training, and development of employees. Lecture, discussion, case studies, and videotape playbacks are used. *Course 3:* Surveys principles of management and organizational development methodologies. Covers employee motivation and development; strategies for delegation; communication; innovation. Lecture, discussion, and workshops are used.
Credit recommendation: *Courses 1 and 2:* In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (6/78). *Course 3:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Business Administration (6/78). NOTE: Students must successfully complete optional assessments in each of the courses.

The John Hancock Mutual Life Insurance Company

The John Hancock Mutual Life Insurance Company Home Office in Boston, Massachusetts, offers extensive educational opportunities to its employees. The general objective of John Hancock's Home Office educational programs is to enhance business and administrative compe-

tence by helping employees to improve their job performance and prepare themselves for greater responsibility and advancement. All courses are held during regular working hours.

The Education, Counseling, and Research Division of Personnel Operations offers about seventy courses in skills training, in pre-supervisory, supervisory and management education, and in executive development. In four areas there are curriculum patterns or groups of related courses: the secretarial curriculum, the pre-supervisory curriculum, the supervisory curriculum, and the management curriculum.

The Supervisory Curriculum covers technical and managerial skills for employees who are currently in or expect to be entering supervisory jobs. The Management Curriculum covers managerial concepts and technical skills for managers and potential managers.

Courses listed below are groupings of courses within the supervisory curriculum, the management curriculum, and the executive development programs. Courses have been grouped together for purposes of evaluation, and represent only a selection of the total offerings in the Supervisory and Management curricula.

Source of official student records: Career Education Programs Unit, Education, Counseling and Research Division, Personnel Operations, John Hancock Mutual Life Insurance Company, P.O. Box 111, Boston, Massachusetts 02117.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Advanced Seminar in Management (840) (Management Seminar)

Location: John Hancock Home Office; Boston, MA.

Length: 30 hours (1 week).

Dates: Febuary 1974–Present.

Objective: To increase knowledge and understanding of current management functions, theories, and practices, through applications to business situations.

Instruction: Management skills covered include planning, goal setting, organizing, leadership, problem solving and decision making, employee relations, and marketing. Methodology includes lecture, discussion, and extensive use of case studies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration (6/76).

(Basic Communications Skills)

1. **Business Writing (430)**
2. **Effective Speaking (431)**
3. **Communications (435)**

Location: John Hancock Home Office, Boston, MA.

Length: 1. 8 hours (4 weeks).
2. 15 hours (7 1/2 weeks).
3. 12 hours (6 weeks).

Dates: 1. September 1969–Present.
2. April 1968–Present.
3. April 1975–Present.

Objective: *Course 1:* To enable the student to achieve organization, appropriate style, and conciseness in written business communications. *Course 2:* To enable the student to improve skills in the fundamentals of speech planning, presentation, and audience appraisal. *Course 3:* To enable the student to develop effective oral communications skills.

Instruction: *Course 1:* Review and application of basic concepts of grammar; semantics and syntax; tone, organization, and style. Lecture, discussion, and writing exercises are used. *Course 2:* Planning of material for oral delivery; appraisal of audience; clear and acceptable presentation of ideas. Methodology includes practice sessions and evaluations in individual presentations (information briefing, use of audio-visual aids, spontaneous speaking), one-to-one, and group conferences. *Course 3:* Understanding and improvement of oral/aural communications; listening; semantics; interpreting messages; feedback; role of management in the communications process; group problem solving; group dynamics. Communication situations are identified and used as a basis for group problem-solving experiences. Communication films and programmed instruction in listening skills are also used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications (6/76). NOTE: Courses 1, 2, and 3 must all be completed in order to receive credit.

(Leadership Concepts and Skills)

1a. **Elements of Supervision (300) (Supervisory Functions)**

(or)

1b. **Supervisor's Institute (816)**

2. **Cases and Problems in Supervision (350)**
3. **Incident Process (360) (A Critical Analysis of People/Work Relationships)**
4. **Modern Concepts of Management (470)**
5. **Interviewing Techniques (462)**

Location: John Hancock Home Office, Boston, MA.

Length: Total length 68 hours (if *Course 1a* is taken) or 80 hours (if *Course 1b* is taken).
1a. 12 hours (6 weeks).
1b. 24 hours (4 days).
2. 12 hours (6 weeks).
3. 20 hours (8 weeks).
4. 12 hours (8 weeks).
5. 12 hours (8 weeks).

Dates: 1a. April 1971–Present.
1b. October 1969–Present.
2. September 1970–Present.
3. February 1966–Present.
4. April 1972–Present.
5. July 1971–Present.

Objective: *Course 1a:* To provide the supervisor or potential supervisor with an understanding of the skills required to manage the work unit effectively. *Course 1b:* To provide the newly appointed or potential supervisor with an intensive introduction to the concepts and practical skills required for managing group work efforts. *Course 2:* To increase the student's knowledge and skills as they relate to individual and group behavior in work situations. *Course 3:* To improve skills in critical analysis and decision making as they pertain to work and interpersonal relationships. *Course 4:* To provide an overview of recent management theories and the substantiating research applicable to principles of problem solving and decision making, management organization and leadership style, and cost control. *Course 5:* To provide an understanding of the importance and the application of the questioning techniques, styles and procedures used in the interviewing process.

Instruction: *Course 1a:* An introductory course presenting the basic elements of the supervisor's job of management. Provides a foundation in the following areas: training and developing subordinates, human aspects of supervision, motivation, communications, managerial style, problem solving, decision making, and leadership. Focuses on developing sound operating principles and high achievement goals within a group, leading to more effective performance and increased productivity. Lectures, discussion, films and case studies are used. *Course 1b:* Covers elements of supervision, training, cost accounting, communications, employee evaluation, OSHA, interviewing techniques, and equal employment opportunity. Lectures, discussion, participative exercises, films and case studies are used. *Course 2:* Explores the interaction of people on the job. Through active participation in problem-solving and decision-making groups, the student works with supervisory problems illustrating human relations principles and practices in business situations. Designed to develop an understanding of human factors in work situations and the improvement of skills in face-to-face and group interaction. Lectures, discussion, films and role playing are used. (Prerequisite: 300, Elements of Supervision or 816, Supervisor's Institute). *Course 3:* A variant of the traditional case method, the Incident Process proceeds through five phases during which time group members gather information, analyze facts, and make decisions about actual case situations that occurred in business organizations. Class members work independently, and cooperatively, in applying theoretical knowledge and first-hand experience to test and develop their supervisory skills in planning, organizing, staffing, directing, controlling, and conference leadership. Lectures, discussion of work situations and a film are used. (Prerequisites: 300, Elements of Supervision or 816, Supervisor's Institute and 350, Cases and Problems in Supervision). *Course 4:* This course is primarily designed for supervisory and management personnel who are interested in applying the results of management research to improve line and staff functions. Deals with the effective use of interpersonal relationships to accomplish work goals. Lectures, discussion, films, transparencies, and group problem solving are used. *Course 5:* Covers organizing an interview, questioning techniques, and various interviewing skills. Emphasis is placed on the employment interview, but other types of interviews also discussed. Lectures, discussion, sample taped interviews, practice student interviews, and critiques are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Business Administration (6/76). NOTE: Course 1a or 1b and Courses 2, 3, 4, and 5 must all be completed in order to receive credit.

(Management Theories and Applications)
1. General Management (501)
2. Cases and Concepts in Management (580)

Location: John Hancock Home Office, Boston, MA.
Length: 1. 16 hours (8 weeks).
2. 18 hours (3 days).
Dates: 1. January 1973–Present.
2. January 1972–Present.

Objective: *Course 1:* To provide the student with a broader understanding of management concepts through applications to case studies. *Course 2:* To broaden the students' knowledge of management concepts and functions in terms of the total organization and to improve their abilities in problem solving and decision making through in-depth case study analysis.

Instruction: *Course 1:* A comprehensive survey of the field of management, stressing the fundamental concepts necessary for all managers to achieve effective administration. Covers management philosophy, responsibilities of management, organizational structure and relationships, executive behavior, and trends in management. Lectures, discussions, group work, and case analyses are used. *Course 2:* Deals with problems in the business organization that require management action. Emphasis is on the responsibility of management for the organization, operation, and control of the business enterprise, with a focus on the impact of business problems and solutions on the organization as a whole. Participants work in teams on cases involving a variety of problems in actual business situations and apply their knowledge and experience in preparing and presenting their analyses for group discussion. Uses the case method, films and selected supplementary readings. (Prerequisite: 501, General Management.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (6/76). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

(Technical Skills for the Manager)
1. **Fundamentals of Data Processing (411)**
2. **User's Role in Systems Development (463)**
3. **Operations Analysis (450) (Methods & Procedures Analysis)**
4. **Job Design (455)**

Location: John Hancock Home Office, Boston, MA.
Length: 1. 12 hours (4 weeks).
2. 18 hours (9 weeks).
3. 20 hours (10 weeks).
4. 9 hours (3 weeks).
Dates: 1. September 1970–Present.
2. November 1971–Present.
3. September 1972–Present.
4. September 1972–Present.

Objective: *Course 1:* To introduce the tools and techniques of business data processing. *Course 2:* To provide an understanding of the user's role and responsibility in the development of computer-based systems. *Course 3:* To provide the student with skills needed to analyze present procedures, to identify and evaluate alternative methods, and to implement change. *Course 4:* To enable the student to understand and apply principles of job design, utilizing concepts of employee motivation and job enrichment.

Instruction: *Course 1:* An overview of manual and mechanical card-punch and electronic systems; input-output devices; basic concepts of flowcharting; programming and systems cycles. Methodology includes lecture, discussion, and flowchart problems. *Course 2:* Teaches user to identify needs and problems during system development. Covers user roles in gathering and organizing information and relating costs to benefits for proposed systems. User participation in developing conceptual designs, formulating system uses and controls, and evaluating implemented systems is also treated in detail. Lecture, discussion and problem solving are used. *Course 3:* The course covers basic procedures analysis, including functional and task analysis, work distribution, data gathering and flowcharting techniques, and systematic ways to analyze a local procedure. Also includes information on how to organize a report and present recommendations keyed to a procedures change. Lecture, discussions, mock interviews, and presentations are used. *Course 4:* Designed to train supervisory and management personnel how to re-design jobs and make them more meaningful. Emphasis is placed on translating the generalities of challenge, responsibility, growth, and achievement to specific job components. The "green-lighting" process is used and taught as a specific mangagement technique. Lecture, discussion, case studies, films and participative exercises are used. (Prerequisite: 470, Modern Concepts of Management).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (6/76). NOTE: Courses 1, 2, 3, and 4 must all be completed in order to receive credit.

Juvenile Justice Center of Pennsylvania

The Juvenile Justice Center of Pennsylvania is a non-profit technical assistance and educational organization dedicated to bringing about systemic change within the juvenile justice system. In order to improve the quality of justice for children and fulfill the needs of troubled juveniles, the Juvenile Justice Center directs its efforts toward (1) public and professional education to foster broad-based understanding of the needs and rights of children as necessary support for effective program change and new policies; (2) identifying weaknesses and gaps in existing services, and undertaking the training, organizational, and technical assistance programs to develop resources needed within juvenile justice systems.

Source of official student records: Intern Program Coordinator, 1902 Rittenhouse Square, Philadelphia, Pennsylvania 19103.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Juvenile Justice System I (Issues in Juvenile Justice)

Location: Philadelphia and Pittsburgh, PA.
Length: 44 hours (14 weeks).
Dates: April 1977–Present.
Objective: To provide a comprehensive overview of the juvenile justice system and to explore issues in juvenile justice as they relate to the American tradition of individual civil liberties.
Instruction: Site visits and follow-up evaluation of institutions are emphasized. Method includes films, lectures, and a critical review of the literature in delinquency.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 4 semester hours in American Studies, Corrections, Criminal Justice, Criminology, Law Enforcement, Social Work, or Sociology (4/77). NOTE: Students receiving recommendation for graduate credit are required to submit an in-depth proposal for funding a diversion project, a secure facility, or an open community based facility.

Professional Group Home Training Course (Group Home Education and Procedure)

Location: Philadelphia, PA.
Length: 150 hours (4 weeks); 70 hours classroom instruction (2 weeks), 80 hours field placement (2 weeks).
Dates: August 1976–Present.
Objective: To develop a working knowledge of the group home concept, its advantages and needs and poten-

tial benefits to its clients, and to develop those skills that are necessary to properly operate and maintain a group home.

Instruction: Consists of an intense, two-week instructional period followed by a two-week field experience. Covers exposure to the juvenile justice system from court visits, on-site inspection of detention facilities, and group home visitations. Field experiences are supplemented by extensive critiques and a review of current literature.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Corrections, Criminal Justice, Human Development, Law Enforcement, Public Administration, Social Work, or Sociology (4/77).

Youth-Advocate Training Project (Youth Advocacy in Juvenile Justice)

Location: Philadelphia, Center City; Bucks County, Chester County, Delaware County, Montgomery County, PA.

Length: 42 hours (10 weeks).

Dates: October 1976–Present.

Objective: To expose students to advocacy techniques when working with young people who come in contact with the juvenile justice system.

Instruction: The juvenile justice system; dynamics of adolescence; community-resources and strategies; active listening; values clarification; counseling techniques; consumer education; survival techniques. Specialists in various components of the juvenile justice system provide lectures, and role playing is utilized.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Corrections, Criminal Justice, Human Development, Law Enforcement, Public Administration, Social Work, or Sociology (4/77).

Knight-Ridder Newspapers, Inc.

Knight-Ridder Newspapers, Inc., is primarily engaged in the publication of daily newspapers—32 daily newspapers in 22 cities in 16 states. It is the largest in the United States in terms of aggregate weekly newspaper circulation (more than 24 million) and in terms of total revenues and assets.

The company also owns and operates Commodity News Services, Inc., a commodity wire service, and publishes 13 non-daily suburban newspapers in three states.

Knight-Ridder Newspapers, Inc., offers many personal and professional management development courses to its employees to help them accelerate their professional and managerial career development. Many of these courses are offered under the auspices of the Knight-Ridder Newspapers Institute of Training, located in Miami, Florida. Though primarily for employees of Knight-Ridder, the courses are open to limited attendance by persons outside the company.

Source of official student records: Personnel Division, Knight-Ridder Newspapers, Inc., One Herald Plaza, P.O. Box 012035, Miami, Florida 33101.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Application of Modern Computer Technology to Newspaper Operations

Location: Miami, FL.

Length: 40 hours (1 week); residential.

Dates: October 1972–Present.

Objective: To give newspaper managers a practical understanding of how computers and related electronic systems work and how they are used in business operations, circulation information systems, mailroom operations, and the newsroom.

Instruction: A survey of topics in computer sciences including binary numbers, computer logic, hardware, software, and basic programs. Introduces business and newspaper applications. Methodology includes lecture, discussion, and laboratory workshops.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Science (2/78).

Circulation Management

Location: Miami, FL.

Length: 40 hours (1 week); residential; four hours of precourse work.

Dates: June 1973–Present.

Objective: To assist circulation managers and managers from other departments in developing key marketing-management skills.

Instruction: The management cycle; problem solving; consumer information systems; marketing and promotion problems. In-basket exercises and case studies are used to develop skills in applying appropriate management techniques to the solution of problems and improvement of operations of the circulation department.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Marketing Management (9/77).

Classified—The Action Approach (Marketing)

Location: Miami, FL.

Length: 40 hours (1 week); residential; six hours precourse work.

Dates: March 1975–Present.

Objective: To provide sales, advertising, and management training to managers and supervisors of classified advertising departments.

Instruction: The role of the classified manager; selecting and training sales people; measuring and evaluating their performance; the "positive selling" approach; creative copywriting; sales incentives programs. Instructional methods include lectures, in-basket exercises, role playing, and workshops.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Marketing (9/77).

Effective Human Relations

Location: Miami, FL.

Length: 40 hours (1 week); residential; four hours precourse work.

Dates: June 1971–Present.

Objective: To provide managers with understanding, information, and skills in human relations within the organization.

Instruction: Varieties of managerial styles and behavior; motivation theories; means to develop effective relations with subordinates, peers, and supervisors in an organization. Methodology includes individual and team exercises, videotaped role play, case studies, and audio-visuals.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Supervision (9/77).

Financial Management for Non-Financial Managers

Location: Miami, FL.

Length: 40 hours (1 week); residential

Dates: September 1972–Present.

Objective: To familiarize participants with the vocabulary and concepts of finance and accounting; to provide ability to interpret and analyze financial reports as a basis for decision-making.

Instruction: Basic financial vocabulary; analysis of transactions; recording and summarizing of accounting information; generally accepted accounting principles; financial reports; ratio analysis; cost and profit relationships; capital budgeting; ROI and the auditing and treasurer functions. Methodology includes lecture, discussion, case studies, and practical exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Financial Management (2/78).

Improving Personnel Selection

Location: Miami, FL.

Length: 40 hours (1 week); residential.

Dates: March 1975–Present.

Objective: To provide line supervisors with interviewing, testing, and selection techniques.

Instruction: Preparation for and conduct of the interview; reference checks; test administration; making the selection decision; equal employment considerations. Methodology includes lecture and emphasizes role playing, which is videotaped and critiqued.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, General Management, or Personnel Administration (9/77).

Interpersonal and Organizational Communications

Location: Miami, FL.

Length: 40 hours (1 week); residential; four hours of precourse work.

Dates: February 1972–Present.

Objective: To provide line managers with information and experiences to increase their understanding and effectiveness in verbal and nonverbal communication.

Instruction: Major emphasis is placed on one-on-one communications between a manager and individuals with whom he or she works. Specific interview situations relate to employment (hiring and exit), counseling, disciplining, and appraisal. Methodology includes case studies, team exercises, role playing and critique, and audio-visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications or General Management (9/77).

Knight-Ridder Supervisory Training

Location: Miami, FL.

Length: 40 hours (1 week); residential; 8 hours of precourse work.

Dates: September 1977–Present.

Objective: To develop the skills of experienced personnel directors, trainers, and department heads in education and training methodology.

Instruction: Covers techniques of instruction, such as lecture, audio-visual, role playing, and case study. Selected current management topics are examined. Methodology emphasizes practical exercises.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Educational Methodology or Personnel Administration (9/77).

Making Effective Presentations

Location: Miami, FL.
Length: 40 hours (1 week); residential.
Dates: August 1976–Present.
Objective: To provide principles and practices of oral communication to top level supervisors.
Instruction: The communication process; preparing informal and formal presentations; presenting technical information; the use of visual aids and effective presentation techniques. Managers acquire understanding of principles through self-instruction materials and case studies. Skills are developed by making presentations which are videotaped and critiqued.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Communications or Speech (9/77).

Modern Production Techniques

Location: Miami, FL.
Length: 40 hours (1 week); residential.
Dates: April 1971–Present.
Objective: To provide an understanding of the integrated systems employed in newspaper production including direct experience with techniques, tools, and equipment.
Instruction: Ad service and editorial composition; engraving; stereotype; pressroom; mailroom. Methodology includes some lecture but emphasis is on hands-on experience and tutoring by staff in each department.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in General Business Administration, or in the upper division baccalaureate category, 2 semester hours in Graphics, Industrial Arts, or Journalism (2/78).

Problem Solving and Decision Making

Location: Miami, FL.
Length: 40 hours (1 week); residential (Requires a minimum of eight hours of outside preparation during the course).
Dates: March 1971–Present.
Objective: To provide the manager with the skills used in rational problem analysis, problem solving, and decision making.
Instruction: Working in teams and individually, students learn to apply a systematic and logical approach to information gathering and analysis, problem solving, and decision making. Methodology emphasizes case studies. A film series is used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in General Management (9/77).

Training, Developing, and Evaluating Your Employees

Location: Miami, FL.
Length: 40 hours (1 week); residential; four hours of precourse work.
Dates: December 1972–Present.
Objective: To develop in managers the skills needed to evaluate employee performance and to provide needed training and development.
Instruction: Programmed instruction, films, case studies, and role playing are utilized to teach supervisory techniques for observing and evaluating performance, determining development needs, conducting development interviews, and on-the-job training.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in General Management (9/77).

The Lockheed Missiles and Space Company, Inc.

The Lockheed Missiles and Space Company, Inc. (LMSC), a wholly owned subsidiary of the Lockheed Aircraft Corporation, pursues the parent corporation's interests by providing the U.S. Navy with Fleet Ballistic Missile systems, the National Aeronautics and Space Administration, and the U.S. Air Force with satellites, spacecraft, and associated systems and equipment. In addition, LMSC provides the corporation with a research and development division to advance technical knowledge, corporate capabilities, and new advanced-technology products.

Training and personnel development activities are divided into three functional areas: employee training and development, product support training for missile systems, and product support training for space systems. Employee technical training and management development activities include basic and advanced skills training, professional technical courses, and supervisory and management development programs, taught in-house and through arrangements with local colleges and universities.

Product support training for missile and space systems consists of technical knowledge training courses and spe-

cific skills training courses for customer, company, and associated contractor personnel charged with operating, maintaining, and analyzing the performance of specific systems. The training courses described below are representative of the courses that are developed and presented in support of products of the missile systems and space systems divisions.

Source of official student records: Missile Systems Division Training, 0/82-72, Bldg. 154, Lockheed Missiles and Space Company, Inc., P.O. Box 504, Sunnyvale, California 94086; or Space Systems Division Training, 0/67-30, Bldg. 560, Lockheed Missiles and Space Company, Inc., P.O. Box 504, Sunnyvale, California 94086.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Missile Systems Division

ATLAS-L Programming

1. **ATLAS Language Programming (D3214)**
2. **C4 SACE ATLAS-L Digital, PCM and Events Testing (D3211)**
3. **C4 SACE ATE TABLES Programming (D3212)**

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; POMFLANT, Charleston, SC; SWFPAC, Bangor, WA; Cape Canaveral, FL.

Length: *Version 1:* 50 hours (25 days); Lockheed, Sunnyvale (all three courses).
Version 2: 48 hours (8 days); field locations (all three courses).

Dates: October 1974–Present.

Objective: To develop an understanding of and ability in programming abbreviated Test Language for Avionics Systems—Lockheed (ATLAS-L), a pseudo-English, problem-oriented programming language.

Instruction: This three-course sequence describes the structure and applications of the ATLAS-L language as used with the C4 Automatic Test Stations, including Digital, PCM, and Events Testing, and presents a description of the structure of ATLAS-L ATE TABLES programming. Methodology includes lectures, problem examples, and workshops.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (6/77). NOTE: All three courses must be completed in order to receive credit.

C4 (TRIDENT) Missile System SACE (D3246)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; SWFPAC, Bangor, WA; POMFLANT, Charleston, SC.

Length: 30 hours (5 days).

Dates: January 1976–Present.

Objective: To familiarize students with the C4 Missile System Distribution and Measurement Unit Control Computer and Device Controller.

Instruction: A functional, block-diagram-level operational description of the capabilities, inputs, throughputs, outputs, limitations, and firmware of the Control Computer and Device Controller Systems. Methodology includes lecture and discussion.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 1 semester hour in Computer Science, Electrical Engineering, or Engineering Technology (6/77).

Digital Principles (D3230)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; SWFPAC, Bangor, WA; POMFLANT, Charleston, SC.

Length: 30 hours (5 days).

Dates: January 1976–Present.

Objective: To provide a basic background in digital logic and computer systems.

Instruction: Course covers number systems and operations; coding; Boolean algebra; logic networks; introduction to computers. Methodology includes lecture, discussion, and problem solving.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Technology, Electronics Technology, or Engineering Technology (6/77).

Microprogrammable Processor

1. **C4 SACE Common Elements Familiarization (D3232)**
2. **C4 SACE MPP 5600 Theory of Operation (D3238)**

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; SWFPAC, Bangor, WA; Cape Canaveral, FL.

Length: *Version 1:* 38 hours (19 days); Sunnyvale (both courses).
Version 2: 36 hours (6 days); field locations (both courses).

Dates: June 1974–Present.

Objective: To provide students with an understanding of theory of operation, with respect to software and hardware, and of the Control Data Corporation 5600/1700L Microprogrammable Processor.

Instruction: Instruction formats and codes for micromemory and for the 1700 computer are covered. Hardware is covered on a detailed block-diagram level. Methodology includes lectures and discussions with examples.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semes-

ter hours in Computer Science, Electrical Engineering, or Engineering Technology (6/77). NOTE: Completion of both courses is required in order to receive credit.

Missile Flight Control Computer

1. **C4 Flight Control Computer Familiarization (D2411)**
2. **C4 Flight Control Computer Detail (D2412)**
3. **C4 Flight Control Interrupt Sets (D2410)**

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; SWFPAC Bangor, WA; POMFLANT, Charleston, SC; Cape Canaveral, FL.

Length: *Version 1:* 38 hours (19 days); Sunnyvale (all 3 courses).
Version 2: 36 hours (6 days); field locations (all 3 courses).

Dates: May 1973–Present.

Objective: To provide an understanding of the C4 Flight Control Computer.

Instruction: An analysis of the C4 Flight Control Computer macro and micro programming; logical organization; interfaces and interrupts. Methodology includes lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Technology, Electronic Technology, or Engineering Technology (6/77). NOTE: All three courses must be completed in order to qualify for this recommendation. If D2411 and D2412 are completed without the third course, 1 semester hour is recommended.

Space Systems Division

Ascent Guidance System (SS 241)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; Vandenberg Air Force Base, CA.

Length: 72 hours (24 days).

Dates: October 1973–Present.

Objective: To provide students with a comprehensive technical overview of the Ascent Guidance System and computer for the Agena space vehicle.

Instruction: Instruction in the inertial sensor, including gyroscopes, accelerometers, and associated electronics; guidance computer and its flight program; ground support equipment and check out; assembly language programming. Methodology includes lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (6/77).

Dual Attitude Control System (SS 540)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; Vandenberg Air Force Base, CA.

Length: *Version 1:* 54 hours (18 days); Sunnyvale, CA.
Version 2: 50 hours (10 days); Vandenberg Air Force Base, CA.

Dates: January 1972–Present.

Objective: To provide students with an understanding of the method used to implement theories of operation of gyroscopes as used in strap-down guidance and control system for orbiting spacecraft and with the ability to diagnose anomalous system behavior, isolate malfunctions to the functional level, and take corrective action to prevent damage to equipment or danger to personnel.

Instruction: Detailed presentation of a strap-down guidance and control system for an orbiting spacecraft. Theory of operation and application of single-degree-of-freedom, rate-integrating gyroscopes for attitude sensing. Theory of operation of earth scanning infrared and horizon sensing. Theory of operation of thrust termination velocity control assemblies, pulse frequency/pulse width attitude control modulation, and hot gas reaction control engines. Hydraulic servo theory and operation; pre-launch countdown controls; ground testing techniques. Methodology includes lecture and daily quizzes.

Credit recommendation: *Versions 1 and 2:* In the upper division baccalaureate category, 2 semester hours in Engineering (6/77).

P-50 Electrical System (SS 530)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; Vandenberg Air Force Base, CA.

Length: 30 hours (10 days).

Dates: June 1973–Present.

Objective: To provide students with an overview of an electrical power distribution system used on a space vehicle.

Instruction: Basic understanding of space vehicle power sources including batteries and solar panels. Pyrotechnic devices; power monitoring and telemetering equipment; booster interface; power-up and power-down sequences; schematic utilization for signal tracing. Methodology includes lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Engineering Technology (6/77).

Tracking, Telemetry and Commanding (SS 550)

Location: Lockheed Missiles and Space Company, Sunnyvale, CA; Vandenberg Air Force Base, CA.

Length: *Version 1:* 45 hours (15 days); Sunnyvale, CA.
Version 2: 45 hours (9 days); Vandenberg Air Force Base, CA.

Dates: January 1972–Present.

Objective: To provide students with an understanding of how the design of a spacecraft communications system provides data for tracking and commanding vehicles in flight, as well as for monitoring the operation of on-board equipment, and to train them to diagnose and isolate system malfunctions to a functional level.

Instruction: Course provides an overview and details of multiplexed telemetry, including baseband unit, receivers/demodulators, command system sequences, transducer operation/calibration, and power and sensitivity measurement. Analog-to-digital conversion is also discussed. Methodology includes lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering (6/77).

National Affiliation for Literacy Advance

The National Affiliation for Literacy Advance (NALA) is a membership organization of Laubach Literacy, International. Started in 1968, NALA provides a channel for coordinating and exchanging volunteer literacy expertise and experience in the United States and Canada.

NALA has built its program upon the thirty years of Laubach Literacy activity with trained volunteers in the United States. Laubach Literacy, International, founded in 1955, functions worldwide to teach adult illiterates to read and write.

NALA's tutor training programs are delivered to over 450 affiliate literacy groups by 870 qualified trainers. Teaching materials, curricula and certification standards for tutors and their trainers are coordinated by NALA.

Source of official student records: The National Affiliation for Literacy Advance, Box 131, Syracuse, New York 13210.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Teaching of Basic Reading and Writing Skills to Older Non-Readers

Location: Local affiliates throughout the U.S. and Canada.

Length: 40 hours (14 weeks); 12 hours classroom instruction (2 weeks), 24 hours of practicum and 4 hours of supervision (12 weeks).

Dates: January 1976–Present.

Objective: To train volunteers to teach English-speaking adult illiterates to read and to write.

Instruction: Covers problems of the illiterate and the Laubach method of basic language skills instruction. Discusses characteristics of adult illiterates and implications for instruction. Introduces tutors to writing simple stories for beginning adult readers, using a controlled vocabulary. Students learn to conduct tutorial teaching sequences using the Laubach method. Instruction includes lecture, discussion, role playing, a supervised practicum, and an examination.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Adult Basic Education or Reading Education (1/76). *NOTE:* A shorter version of this course with the same title is also offered by NALA but has not been reviewed for a credit recommendation. Student records will indicate which version has been taken.

Teaching English to Speakers of Other Languages

Location: Local affiliates throughout the U.S. and Canada.

Length: 40 hours (13 weeks); 15 hours classroom instruction (2 weeks), 21 hours practicum and 4 hours supervision (11 weeks).

Dates: January 1976–Present.

Objective: To train volunteers to teach speakers of other languages oral and written skills in English.

Instruction: Covers problems of learning English as a second language with emphasis on the sound-system of English. Presents the Laubach Literacy method and materials, supplemental vocabulary lists and drills, teaching aids, and materials, for review and reinforcement. Introduces tutors to writing simple stories for beginning adult readers. Instruction includes lecture, discussions, role playing, a supervised practicum, and an examination.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Education or Linguistics (1/76). NOTE: A shorter version of this course with the same title is also offered by NALA but has not been reviewed for a credit recommendation. Student records will indicate which version has been taken.

Writing for New Readers

Location: Local affiliates throughout the U.S. and Canada.

Length: 20 hours (3–4 days).

Dates: January 1976–Present.

Objective: To train volunteer tutors to write reading materials for beginning adult readers using the Laubach method.

Instruction: Develops skills in writing high-interest low-vocabulary materials that can be reproduced for basic literacy instruction. Students complete three major writing assignments and evaluate them in class on the basis of appropriateness of content and quality of writing. Assignments are preceded by discussion of the needs of the target audience, principles and methods of writing for that audience, use of appropriate word lists. Overview of production, copywriting and distribution of materials. (Prerequisite: Teaching of Basic Reading and Writing Skills to Older Non-Readers or Teaching English to Speakers of Other Languages.)

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Communications, Education, or English (1/76).

National Institute on Drug Abuse

The National Institute on Drug Abuse (NIDA) is one of three institutes of the Alcohol, Drug Abuse and Mental Health Administration, a part of the Public Health Service within the Department of Health, Education and Welfare. NIDA's primary responsibility is to provide and support drug abuse treatment and prevention services throughout the United States. To this end, the Institute provides leadership, policies, and goals for the Federal effort in the prevention, control, and treatment of narcotic addiction and drug abuse, and the rehabilitation of affected individuals.

NIDA's manpower and training role is to strengthen and expand technical assistance research and resource development. Under NIDA's Manpower and Training Branch the National Training System (NTS) administers five Regional Support Centers (RSC), which deliver the courses listed below. Trainees who have successfully completed the course(s) receive an NTS certificate.

The source of official student records: NTS Registrar, Career Development Center, 5530 Wisconsin Avenue, N.W., Washington, D.C. 20015.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Assessment Interviewing for Treatment Planning

Location: Regional Support Centers throughout the United States.

Length: 34 1/2 hours (1 week or 7 weeks).

Dates: November 1975–Present.

Objective: To provide counselors with a systematic approach to assessment interviewing and developing treatment plans.

Instruction: The focused interview as a basis for information-gathering and client assessment; interviewing skills; case histories; recording; treatment planning. Introduces confidentiality and psychometric testing. Lecture, discussion, videotapes, and small-group method are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, or in the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

Basic Management Skills

Location: Regional Support Centers throughout the United States.

Length: 33 1/2 hours (1 week).

Dates: February 1977–Present.

Objective: To provide the manager with an understanding of the manager's role in an organization and of the principles of effective and efficient management.

Instruction: The manager's job; management theory; the systems approach; the planning process; basic management functions; service unit costing; drug abuse program assessment; information gathering and decision making, personnel issues; cost saving measures; delegation of responsibility and authority. Lectures, discussion, case studies, and small-group method are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Behavioral Science, Human Resources, Management, Social Work, or Urban Studies (2/77).

Counselor Training: Short Term Client System

Location: Regional Support Centers throughout the United States.

Length: 40 hours (1 week).

Dates: December 1974–Present.

Objective: To provide counselors with an understanding of and skills in counseling techniques.

Instruction: Deals with the important components of the helping relationship: establishing rapport and trust, hearing and responding to affective and cognitive data, exploring values and attitudes, initiating the problem-solving process. Emphasizes the development of counseling skills through lecture, discussion, and actual counseling sessions under the guidance of trainers.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

Drug Abuse: Fundamental Facts and Insights

Location: Regional Support Centers throughout the United States.

Length: 40 hours (five 8-hour meetings).

Dates: July 1974–Present.

Objective: To provide drug abuse workers with a systematic knowledge of drugs and drug abuse.

Instruction: Scientific and medical aspects of drugs and principles of drug action; social problems which are perceived as the cause of the present "drug crisis"; the control of dangerous substances and the role of the law in the prevention of drug abuse; treatment and rehabilitation modalities with emphasis on the philosophies upon which each is based. Lecture, discussion, small-group method, and site visits to drug treatment agencies are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, or in the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Services, Social Work, or Sociology (2/77).

Interfacing Drug Abuse Treatment with the Criminal Justice System

Location: Regional Support Centers throughout the United States.

Length: 24 hours (three 8-hour sessions).

Dates: March 1977–Present.

Objective: To enable drug abuse workers, criminal justice workers, and policy-makers to understand the relationship of the drug abuse treatment field and the criminal justice system.

Instruction: Commonalities of the drug abuse treatment system and the criminal justice system in the steps of the treatment process: identification of the nature of the crisis, intervention strategies, corrective action, re-entry to new roles, and assistance in role adjustment; historical development of drug abuse in the United States; evolution of social, political, legislative and judicial response to the problem. Lecture, discussion, and small-group method are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

Making a Difference with Youth

Location: Regional Support Centers throughout the United States.

Length: 45 hours (1 week).

Dates: June 1974–Present.

Objective: To provide a basic understanding of the problems of troubled youth and appropriate program methodologies for workers in community outreach programs.

Instruction: Introduction to the problems and processes of working with troubled youth. The development of community outreach programs; planning and evaluation of youth programs; basic skills in outreach and in management of an individualized program; introduction to community services and programming skills. Lecture and discussion are used, with emphasis on workshop and simulation exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

Residential Treatment Managers

Location: Regional Support Centers throughout the United States.

Length: 30-45 hours (1 week, 5 weeks, or 10 weeks).

Dates: June 1974–Present.

Objective: To enable managers of residential programs to develop new skills, knowledge, and attitudes which support effective program operation.

Instruction: Application of basic management concepts to specific rehabilitation environments; management by objectives; planning; management of organizations; performance planning and evaluation system; working in groups; problem analysis. Lecture, discussion, and small-group method are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Resources, Management, or Social Work (2/77).

Training of Trainers

Location: Regional Support Centers throughout the United States.

Length: 35 hours (1 week, 5 weeks, or 10 weeks).

Dates: June 1974–Present.

Objective: To provide trainers with experience in the drug abuse field with additional knowledge in training theories and design and in the use of laboratory methods.

Instruction: Self-assessment of design and delivery skills and of personal learning styles; learning theory; training design; techniques for presenting information; dynamics of group process; assessment of group learning situations. Lectures and discussion are used with emphasis on small-group experiences.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Science, Education, Human Services, or Social Work (2/77).

Vocational Rehabilitation in the Treatment Setting

Location: Regional Support Centers throughout the United States.

Length: 48 hours (1 week).

Dates: August 1976–Present.

Objective: To increase the counselor's understanding of vocational rehabilitation as it relates to drug abusers.

Instruction: Role and function of vocational rehabilitation specialists; development of skills in assessing client needs; providing guidance, support, and follow-up; problem identification and action planning. Lectures, videotapes, and discussions are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

Women in Treatment: Issues and Approaches

Location: Regional Support Centers throughout the United States.

Length: 28 hours (4 days, 4 weeks, or 8 weeks).

Dates: August 1976–Present.

Objective: To enable counselors and supervisors in drug treatment programs to work more effectively with women in drug treatment programs by increasing their awareness of attitudes towards women and the influence of such attitudes on treatment.

Instruction: Myths and stereotypes about women; characteristics of the female addict; counselor-client interaction; treatment planning, design, and delivery; use of individual and group techniques and structured experiences in assisting women clients achieve treatment goals. Lecture, discussion, simulations, and small-group method are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Science, Human Services, or Social Work (2/77).

National Secretaries Association

The National Secretaries Association (NSA), a nonprofit association founded in 1942, has chapters throughout each of the 50 states, Canada, Puerto Rico, and affiliate chapters around the world. The Association's aim is to elevate secretarial standards and offer opportunities for professional and personal growth and development to achieve that goal.

The Institute for Certifying Secretaries

The Institute for Certifying Secretaries is a department of the National Secretaries Association. The Institute was established by NSA in 1949 and is composed of representatives from management, business education, and NSA. This program was established to develop and administer the Certified Professional Secretary (CPS) Examination, which is the recognized standard of proficiency in the secretarial profession. In order to qualify to take the CPS Examination, candidates must meet specific educational and work experience requirements as established by the Institute.

The CPS Examination is a two-day, six-part examination. Five parts of the examination consist of multiple-choice questions, which include problem-solving situations, knowledge of facts, and application of theory. The Communications and Decision Making (Part V) of the examination is a skills test consisting of an in-basket exercise.

Formal courses are not required for taking the examination; however, many candidates find it necessary to take formal courses, review courses, or do extensive independent study in each of the areas in which they are being examined. The Institute does not sponsor courses to help candidates prepare for the examination, but it does publish a study outline and bibliography of books and periodicals dealing with each part of the examination.

Source of official student records: Ms. Lois Wilkinson, Executive Secretary, National Secretaries Association, 2440 Pershing Road, Suite G-10, Kansas City, Missouri 64108.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Part I: Behavioral Science in Business (Formerly Environmental Relationships in Business)

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 105 minutes (100 questions).

Dates: May 1971–Present.

Objective: To test the candidate's understanding of principles of human relations and of the interrelationship of self, peers, subordinates, and superiors.

Content: Focuses on the needs and motivations of individuals, the nature of conflict, problem-solving techniques, essentials of supervision and communication, leadership styles, and understanding the informal organization.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Human Relations or Psychology (1/76).

Part II: Business Law (Formerly Business and Public Policy)

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 105 minutes (150 questions).

Dates: May 1971–Present.

Objective: To test the major elements of business law involved in the secretary's daily work.

Content: Contracts and bailments; law of agency and sales; insurance; negotiable instruments; real property. Public policy in the form of governmental regulatory legislation is also examined.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Business Law (1/76).

Part III: Economics and Management

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 100 minutes (100 questions).

Dates: May 1971–Present.

Objective: To test the candidate's understanding of the basic concepts of business operation.

Content: The economics portion covers basic concepts of economics (private property, supply and demand, markets), national income and its determinants, the labor force, the financial system, federal income taxes for business, business involvement in social programs and related legislation, and international trade. The management portion covers principles of management and elements of business operation, including personnel, financial, production, and marketing management.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Economics or Management (1/76).

Part IV: Accounting (Formerly Financial Analysis and the Mathematics of Business)

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 120 minutes (100 questions).

Dates: May 1971–Present.

Objective: To test the candidate's knowledge of basic accounting procedures.

Content: The accounting cycle; financial statements; interest and discounts; interpreting financial data; applications of basic statistics to business management.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (1/76).

Part V: Secretarial Skills and Decision Making (Formerly Communications and Decision Making)

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 120 minutes.

Dates: May 1971–Present.

Objective: To test the candidate's office skills and decision-making abilities.

Content: A performance test presented as an in-basket exercise. The candidate must assign priorities, identify what should be done with each item, and complete the work of selected items. Includes verbatim dictation (80-100 words per minute), transcription, and typewriting skills. The candidate is required to edit, listen, compose, abstract, and judge work acceptability.

Credit recommendation: In the lower division baccalaureate/associate degree category, 9 semester hours in Shorthand, Transcription and/or Typewriting (1/76).

Part VI: Office Procedures and Administration (Formerly Office Procedures)

Location: Examination centers in the United States, Canada, Puerto Rico, and Jamaica.

Length: 75 minutes (100 questions).

Dates: May 1971–Present.

Objective: To test the candidate's knowledge of business office management.

Content: Electronic data processing; communications media; records management; office systems, layout and design.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 6 semester hours in Office Management or Office Procedures (1/76).

National Security Agency

The National Cryptologic School, the educational arm of the National Security Agency, operates under the Government Employees Training Act and applicable Department of Defense directives. It provides training in Cryptology and related activities to military and civilian personnel of the Agency and the U.S. Government. The School is organized in three faculties: Language and Analysis Faculty, Science and Technology Faculty, and Cryptologic Management Faculty.

Source of official student records: Registrar, National Cryptologic School, National Security Agency, Fort George G. Meade, Maryland 20755, ATTN: E71.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Computer Science Department

The Computer Science Department is one of several departments in the Science and Technology Faculty. It provides training for computer operators and programmers as well as systems analysts, engineers, and mathematicians.

ALGOL Programming (MP-243)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 45 hours (5 weeks).
Dates: August 1969–Present.
Objective: To provide an understanding of the ALGOL Programming Language, and to teach the student to program in ALGOL.
Instruction: Origins of the ALGOL language; writing and debugging of at least four ALGOL programs; presentation of various programming techniques useful in the solution of selected problems. Instruction by lecture, discussion, and computer usage. (Prerequisite: Mechanics of Algebra (MA-012) or college-level algebra and demonstrated competency in another programming language.)
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Science (11/75).

APL Programming (MP-188)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 40 hours (5 weeks).
Dates: November 1973–Present.
Objective: To provide the student with a knowledge of the APL Programming Language.
Instruction: Develops the ability to use APL as an effective tool toward the solution of operational problems. Covers syntax and semantics of APL commands and operators as they are used in selected quantitative problems. Instruction by lectures, discussion, and the use of interactive computer terminals. (Prerequisite: Mechanics of Algebra (MA-012) or college-level algebra.)
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computational or Quantitative Research Methods (11/75).

Burroughs B6700 Advanced Technical Skills (MP-1H6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 70 hours (2 weeks).
Dates: July 1974–Present.
Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the Burroughs B6700 MCP Operating System Software.
Instruction: In-depth study of the concepts and facilities of the Burroughs B6700 MCP Operating System and the use of its job control statements; emphasis of data management and system utilities. (Prerequisite: Burroughs 6700 Systems Software [MP-1H5] and FORTRAN for operators [MP-166].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Processing (9/77).

Burroughs B6700 Systems Software (MP-1H5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1973–Present.
Objective: To enhance the apprentice operator's ability to interact with the Borroughs B6700 System Operating System software.
Instruction: System Reconfiguration; Initialization Memory Control; Work Flow Language and Management; Input/Output subsystem; Operator MCP communications and data communication. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

CDC 6600 Series Advanced Technical Skills (MP-1B6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1971–Present.
Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the CDC 6600 SCOPE Operating System software.
Instruction: In-depth study of the concepts and facilities of the CDC 6600 SCOPE Operating System and the use of job control statements. (Prerequisite: FORTRAN for Operators [MP-166] and CDC 6600 Series Systems Software [MP-1B5].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

CDC 6600 Series System Software (MP-1B5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1970–Present.
Objective: To enhance the apprentice operator's ability to interact with the CDC 6600 SCOPE Operating Series software.

Instruction: Overview of the concepts and facilities of the CDC 6600 SCOPE Operating System and the use of its job control statements. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

COBOL Programming (MP-230)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 72 hours (8 weeks).
Dates: August 1969–Present.

Objective: To teach students to write, debug, and document computer programs in COBOL compiler language.

Instruction: Includes mechanics of COBOL; use and syntactic aspects of the COBOL language; punctuation and coding sheet rules; data structure; types of data items; file and record description entries; use of I/O; arithmetic; data manipulation; switching and linkage verbs; arithmetic and conditional expressions; defining tables with emphasis on retrieval methods; writing and debugging of at least three COBOL programs. Instruction by lecture, discussion, and computer usage. (Prerequisite: Introduction to Computer Science (MP-160) or equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing (11/75).

FORTRAN for Operators (MP-166)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 40 hours (1 week).
Dates: January 1971–Present.

Objective: To familiarize computer operators with the FORTRAN language.

Instruction: Introduces basic features of FORTRAN and the programming environment. Covers concepts of FORTRAN commands, including input/output instructions, data manipulation, and data structure. Instruction by lecture, laboratory, and computer usage. (Prerequisite: Familiarity at the operator's level with a specific computer system's operating system.)

Credit recommendation: In the vocational certificate category, 2 semester hours in Data Processing, or in the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (11/75).

FORTRAN Programming (MP-227)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 45 hours (5 weeks).
Dates: December 1974–Present.

Objective: To enable the student to write programs in structured FORTRAN.

Instruction: General history and philosophy of compiler languages with detailed background of the FORTRAN language; detailed examination of the FORTRAN language; detailed examination of the Structured Programming constructs, more specifically, their implementation in FORTRAN; writing and debugging of at least four FORTRAN programs; presentation of various programming techniques useful in the efficient solution of frequently encountered problems. Instruction by lecture, discussion, and computer usage. (Prerequisite: Introduction to Computer Science (MP-160) or equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Science (11/75).

General Programming Techniques (MP-430)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 40 hours (10 weeks).
Dates: June 1974–Present.

Objective: To provide a background in the use of advanced general techniques in programming.

Instruction: Course covers top down design, structured programming, sorting, table look-up techniques, dynamic programming, data structures, dynamic storage allocation, character strings, data compression, and profiling. The student demonstrates his knowledge of the above through completion of a group project using these techniques. Instruction by lecture, discussion, laboratory and computer usage. (Prerequisites: Introduction to Computer Science (MP-160) or equivalent; FORTRAN Programming (MP-227) or equivalent; and Introduction to Computer Science Mathematics (MA-400) or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Science (11/75).

Version 1: IBM-360 Job Control Language (MP-268)
Version 2: IBM-370 Job Control Language (MP-368)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 32 hours (2 weeks).
Dates: *Version 1:* November 1969–December 1975.
Version 2: January 1976–Present.

Objective: *Version 1:* To teach the preparation of control statements for the S360/OS. *Version 2:* To teach the preparation of control statements for the S370/VS.

Instruction: *Version 1:* Discussion of syntax of job control language required to perform the elementary functions of job, task, and data management. Instruction by lecture, discussion, laboratory, and computer usage. *Version 2:* This version deals with the IBM-370 computer, which replaced the IBM-360 computer. The course remains substantially the same, with minor adjustments for a new computer.

Credit recommendation: *Versions 1 & 2:* In the vocational certificate category, 2 semester hours in Data Processing, or in the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (11/75).

IBM-360 System Software (OS) (MP-1D5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 40 hours (5 days).
Dates: July 1971–November 1976.
Objective: To introduce the student to technical concepts of OS/360.
Instruction: Reviews 360 hardware features relevant to OS operations, explains the operating system components and their interrelationship, including interrupt systems, principles of multiprogramming and Job Control Language (JCL), critical OS utilities and Recovery Management Support functions. Instruction by lecture and discussion. (Prerequisite: IBM 360 (MP-1A4) or equivalent).
Credit recommendation: In the vocational certificate category, 2 semester hours in Data Processing, or in the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (11/75).

IBM 370 Programming (MP-335)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 100 hours (5 weeks).
Dates: July 1974–Present.
Objective: To teach the student programming in the IBM 370 assembler language.
Instruction: The standard instruction set is covered in detail. Students learn to write instructions in both the symbolic and explicit forms; to use macros involving QSAM access, to make use of debugging aids which include the dump macros and an interpretation of an OS hexadecimal dump, to write a structured program using IBM macros, and the subroutine linkages between assembly language and FORTRAN programs. Instruction includes lecture, discussion, laboratory, and computer usage. (Prerequisite: FORTRAN Programming (MP-227) or equivalent.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing (11/75).

Introduction to Computer Hardware (MP-410)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 40 hours (5 weeks).
Dates: September 1973–September 1975.
Objective: To provide an introduction to the principles of digital computer design.
Instruction: Covers Boolean algebra, hardware circuitry, elementary digital computer design, sub-component design, high-speed arithmetic techniques, implementation of arithmetic operations, control operations, input/output operation, and storage techniques. Lecture, discussion, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Science (11/75).

Introduction to Computer Science (MP-160) (Introduction to Computing)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 60 hours (3 weeks).
Dates: April 1970–Present.
Objective: To introduce underlying concepts in computing and to provide a base for programming language courses.
Instruction: General consideration of computer history, number systems, conversion between a number in any base to its equivalent in any other base, binary arithmetic, the coding of numerical and character data, explanation of the five components of a digital computer (input, output, control, arithmetic/logic, memory), the six steps of computer programming development (problem analysis, flowcharting, coding, debugging, production run, documentation). Emphasis will be placed on flowcharting and coding. Within coding, the concept of assembly and high-level languages are covered and a simple FORTRAN program is coded. Instruction by lecture and discussion. (Prerequisite: Mechanics of Algebra (MA-012) or college-level algebra.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Science (11/75).

Introduction to Computer Software (MP-420) (Systems Software)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 48 hours (5 weeks).
Dates: September 1973–Present.
Objective: To provide an introduction to the field of general systems programming and an understanding of how operating systems and compilers are constructed and implemented.
Instruction: Detailed discussion and investigation of the nature and characteristics of systems programs; systems design; structural programming; optimization; language utility, microprogramming, compilers, and operating systems. Lecture and discussion are used.
Credit recommendation: In the upper division baccalaureate category, or in the graduate degree category, 3 semester hours in Computer Science or Data Processing (11/75).

Introduction to Computer Systems Operations (MP-154)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 70 hours (2 weeks).
Dates: July 1974–Present.
Objective: To provide an introduction to data processing terminology and methodology.
Instruction: Computer history; numbering systems; components of digital computers; characteristics of assemblers and compilers; characteristics of I/O devices; operating systems. Programming, specific types of business applications, and punch card processing are not emphasized.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Processing (9/77).

Introduction to the 370 MVS Operating System (MP-1S5)
(Formerly IBM-370 System Software [MP-1S5])

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1976–Present.
Objective: To enhance the apprentice operator's ability to interact with the 370 Operating System software.
Instruction: Overview of the concepts and facilities of the 370 MVS Operating System and the use of its job control statements; introduction to data management (including VSAM). (Prerequisite: Introduction to Computer Systems Operations [MP-154].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Processing (9/77).

Model 204 Information Retrieval Language (MP-185)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 36 hours (4 weeks).
Dates: June 1973–Present.
Objective: To explain and demonstrate instructions for utilizing retrieval capabilities of the CCA Model 204 System.
Instruction: General use of the Model 204 remote terminal; system control commands, including sign-on procedures, opening and closing files; retrieving stored information; outputting retrieved information in the format desired; performing arithmetic or conditional operations with stored information; updating or deleting old information; storing new information; use of the editor; functions. Instruction by lecture, discussion, laboratory, and computer usage.
Credit recommendation: In the vocational certificate category, 2 semester hours in Data Processing, or in the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (11/75).

370 MVS Advanced Technical Skills (MP-1S6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 70 hours (2 weeks).
Dates: July 1976–Present.
Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the 370 MVS Operating System software.
Instruction: In-depth study of the concepts and facilities of the 370 MVS Operating System and the use of job control statements; emphasis on data management operations (including VSAM); system utilities; 3850 Mass Storage System. (Prerequisite: FORTRAN for Operators [MP-166] and Introduction to the 370 MVS Operating System [MP-1S5].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Processing (9/77).

Version 1: PDP-11 Programming (MP-375)
Version 2: PDP-11 Programming (MP-377)

Location: National Cryptologic School, Ft. Meade, MD.
Length: *Version 1:* 120 hours (3 weeks).
Version 2: 200 hours (5 weeks)
Dates: *Version 1:* November 1973–April 1976.
Version 2: May 1977–Present.
Objective: To teach students to write and execute assembly language programs using the PDP-11 instruction set.
Instruction: *Versions 1 and 2:* Covers communications with the DOS operating system using monitor commands and programmed request (I/O), editing of source language programs, debugging and modifying programs using ODT subsystem, and managing and manipulating files using PIP. Instruction by lecture, discussion, laboratory, and computer usage. (Prerequisites: Competence in an assembly language.) *Version 2:* Additional instruction on the operation of the computer using a specific operating system to support NSA requirements for PDP-11 operations.
Credit recommendation: *Versions 1 and 2:* In the vocational certificate category, 6 semester hours in Data Processing, or in the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing (11/75).

Phase V CDC 7600 System (IDA) Software Concepts (MP-1K5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1971–Present.
Objective: To enhance the apprentice operator's ability to interact with the CDC 7600 IDA Operating System software.

Instruction: Overview of the concepts and facilities of the CDC 7600 IDA Operating System and the use of its job control statements. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Phase VI CDC 7600 System (IDA) Advanced Technical Skills (MP-1K6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1972-Present.
Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the CDC 7600 IDA Operating System software.
Instruction: In-depth study of the concepts and facilities of the CDC 7600 IDA operating system and the use of its job control statements. (Prerequisite: FORTRAN for Operators [MP-166] and Phase V CDC 7600 System [IDA] Software Concepts [MP-1K5].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

PL/1 Programming (MP-242)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 72 hours (8 weeks).
Dates: October 1969-Present.
Objective: To teach the student to write, debug, and document programs in the PL/1 compiler language.
Instruction: Examination of PL/1; writing and debugging at least four PL/1 programs; class discussion of various sample programs; presentation of various programming techniques useful in the efficient solution of frequently encountered problems. Instruction by lecture, discussion, and computer usage. (Prerequisite: College-level Algebra Course or Mechanics of Algebra (MA-012) and demonstrated competency in another programming language.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing (11/75).

Univac 494 Advanced Technical Skills (MP-1C6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1972-Present.
Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the Univac 494 Operating System software.
Instruction: In-depth study of the concepts and facilities of the Univac 494 RYE Operating System and the use of its job control statements; RYE programming techniques; machine language instructions; RYE input and output conventions; program segmentation; FORTRAN programming under RYE; RYE file control; debugging aids; file standards; RYE communications. (Prerequisite: FORTRAN for Operators [MP-166] and Univac 494 RYE Systems Software [MP-1C5].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Univac 494 HOLDER System Software (MP-1G5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1975-Present.
Objective: To enhance the apprentice operator's ability to interact with the Univac 494 Real Time Interrupt Processing executive software.
Instruction: Overview of the concepts and facilities of the Univac 494 Real Time Interrupt Processing Executive Operating System and the use of its job control statements. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Univac 494 RYE System Software (MP-1C5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1971-Present.
Objective: To enhance the apprentice operator's ability to interact with the Univac 494 RYE Operating System Software.
Instruction: Overview of the concepts and facilities of the Univac 494 RYE Operating System and the use of its job control statements to schedule, prioritize, log, and monitor system operation. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Univac 1108 Advanced Technical Skills (MP-1E6)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: July 1973-Present.

Objective: To provide the experienced operator with an in-depth understanding from an operational viewpoint of the internal functions of the Univac 1108 EXEC 8 Operating System software.

Instruction: In-depth study of the concepts and facilities of the Univac 1108 EXEC 8 Operating System and the use of its job control language. (Prerequisite: FORTRAN for Operators [MP-166] and Univac 1108 Systems Software [MP-1E5].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Univac 1108 Systems Software (MP-1E5)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: july 1972-Present.
Objective: To enhance the apprentice operator's ability to interact with the Univac 1108 EXEC 8 Operating System Software.
Instruction: Overview of the concepts and facilities of the Univac 1108 EXEC 8 Operating Systems and the use of its job control statements. (Prerequisite: Introduction to Computer Systems Operations [MP-154].)
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Data Processing (9/77).

Language Department

The Language Department is one of several departments in the Language and Analysis Faculty. It provides training in different languages to those in language-associated jobs throughout the agency.

Advanced Russian Seminar (RS 360) (Advanced Russian Conversation and Composition II)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 160 hours (10 weeks); two full day sessions per week; classroom instruction and seif-study included.
Dates: September 1971-Present.
Objective: To enable students to perfect speaking skills, aural comprehension, understanding of selected grammar problems and to express themselves in writing.
Instruction: This course is a continuation of Russian 260, at the fourth-year level. Emphasis on stylistics and idiomatic usage.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Russian (5/76).

Basic Colloquial Russian (RS 110) (Intermediate Spoken Russian I)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 160 hours (10 weeks); two full days per week; classroom instruction and self-study included.
Dates: March 1974-Present.
Objective: To enable students who have a basic knowledge of Russian to acquire further skills in spoken Russian.
Instruction: This course corresponds to the first semester of a second-year non-intensive Russian course. Emphasizes aural comprehension and oral production. Audio-lingual approach is used. (Prerequisite: Russian 010 or one year of college-level Russian).
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Russian (5/76).

Basic Russian Reading (RS 140) (Advanced Russian Reading)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 112 hours (7 weeks); two full days per week; classroom instruction and self-study included.
Dates: September 1974-Present.
Objective: To enable students who have an intermediate knowledge of Russian to acquire further skills in reading Russian periodicals.
Instruction: Corresponds to one semester of a third-year non-intensive Russian course with emphasis on reading and abstracting technical texts and primary Soviet sources. (Prerequisite: Russian 105 or equivalent).
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Russian (5/76).

Basic Russian Refresher (RS 150) (Intermediate Intensive Russian)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 480 hours (12 weeks); classroom instruction and self-study included.
Dates: January 1971-Present.
Objective: To provide students who have one-year of prior experience in Russian with further study of the language.
Instruction: This course is the equivalent of a one-year intensive intermediate Russian course. Perfects the four basic skills of speaking, understanding, reading, and writing. Audio-lingual approach is used.

Credit recommendation: In the lower division baccalaureate/associated degree category, 10 semester hours in Russian (5/76). NOTE: If this course is completed after Russian 105 and/or Russian 110, credit should be reduced.

Basic Russian Refresher (RS 151) (Accelerated Intermediate Intensive Russian)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 224 hours (14 weeks); two full days per week; classroom instruction and self-study included.
Dates: April 1975–Present.
Objective: To provide students who have one-year of prior experience in Russian with further study of the language.
Instruction: This course is the equivalent of a one-year intensive intermediate Russian course in an accelerated form. Perfects the four basic skills of speaking, understanding, reading and writing. Audio-lingual approach is used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Russian (5/76). NOTE: If this course is completed after Russian 105 and/or Russian 110, credit should be reduced.

Basic Russian Structure (RS 105) (Intermediate Russian)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 240 hours (16 weeks); classroom instruction and self-study included.
Dates: September 1975–Present.
Objective: To provide students who have a basic knowledge of Russian with further language development emphasizing reading.
Instruction: This course is the equivalent of a second year non-intensive Russian course with emphasis on reading. Uses a grammar/translation approach. (Prerequisite: Russian 010 or one year of college-level Russian.)
Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Russian (5/76).

Comprehensive Russian (15 A) (Intensive Basic & Intermediate Russian)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 2240 hours (58 weeks); classroom instruction and self-study included.
Dates: January 1973–Present.
Objective: To bring the student to the level of fluency generally acquired in two years of language study in the shortest possible time.
Instruction: This course is the equivalent of a two-year basic and intermediate intensive Russian program. Develops the four basic skills: speaking, understanding, reading, and writing. Audio-lingual approach is used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 22 semester hours in Russian (5/76).

Intermediate Colloquial Russian (RS 210) (Workshop in Russian Stylistics)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 160 hours (10 weeks); two full day sessions per week; classroom instruction and self-study included.
Dates: March 1974–Present.
Objective: To enable students to appreciate fine points of Russian usage.
Instruction: A tool of research course for the purpose of developing a deeper understanding of the more intricate patterns of Russian usage.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Russian (5/76).

Intermediate Russian Seminar (RS 260) (Advanced Russian Conversation and Composition I)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 160 hours (10 weeks); two full day sessions per week; classroom instruction and self-study included.
Dates: December 1972–Present.
Objective: To enable students to perfect speaking skills, aural comprehension, and understanding of selected grammar problems, and to express themselves in writing.
Instruction: This course corresponds to a fourth-year Russian conversation and composition course. Emphasis on stylistics and idiomatic usage.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Russian (5/76).

Intermediate Russian Translation (RS 200) (Advanced Russian Translation)

Location: National Cryptologic School, Ft. Meade, MD.
Length: *Version 1:* 192 hours (12 weeks); two full day sessions per week; classroom instruction and self-study included.
Version 2: 128 hours (3 weeks); two full day sessions per week.
Dates: *Version 1:* January 1976–December 1976.
Version 2: January 1977–Present.
Objective: To enable students with advanced knowledge of Russian to develop and perfect written translation skills.

Instruction: *Versions 1 and 2:* Corresponds to one semester of a fourth-year non-intensive Russian course in written translation. Uses contemporary Russian texts. *Version 2:* Students are required to demonstrate greater proficiency to enter the course. The time devoted to technical translation has been reduced.

Credit recommendation: *Versions 1 and 2:* In the upper division baccalaureate category, 3 semester hours in Russian (5/76).

Introduction to Russian Linguistics (RS 130)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 128 hours (16 weeks); two full days per week; classroom instruction and self-study included.

Dates: April 1976–Present.

Objective: To introduce the student to important phonological and morphological phenomena in modern Russian based on a study of the historical development of the language.

Instruction: An advanced course covering Galagolitic, Old Church Slavic, and Old Russian texts to explicate the development of phonological and morphological aspects of the language.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Russian Linguistics (5/76).

Introductory Russian (RS 010)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 225 hours (15 weeks); classroom instruction and self-study included.

Dates: January 1973–Present.

Objective: To provide students who have no background in Russian with a knowlege of the basic vocabulary and structure of the language.

Instruction: This course is the equivalent of a non-intensive first-year Russian course. Develops the four basic skills: speaking, understanding, reading and writing. Audio-lingual approach is used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Russian (5/76).

Workshop in Russian Syntax (RS 160)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 128 hours (8 weeks); two full day sessions per week; classroom instruction and self-study included.

Dates: October 1974–Present.

Objective: To prepare students for advanced courses in translation.

Instruction: A tool of research course that develops translation skills. Problems in syntax approached through guided translation exercises.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Russian (5/76).

Management Education Department

Management Education Department is a department of the Cryptologic Management Faculty. It provides supervisory, managerial, executive management education to all levels of management at the National Security Agency. It is also responsible for providing functional management training to meet agency needs.

Clerical Introduction (OS-050)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 35 hours (1 week).

Dates: June 1971–Present.

Objective: To enable the employee to upgrade clerical skills.

Instruction: Introduction to clerical procedures, including filing, drafts, proofreading, and use of office machines; mail management; managing paperwork flow. Lecture, discussion, and practical exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Secretarial Science (9/76).

Cryptologic Management for Interns (MC-107) (Introduction to Management)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 35 hours (1 week).

Dates: March 1975–Present.

Objective: To enable new supervisors to develop interpersonal and administrative skills to improve job performance.

Instruction: The functions of supervision; styles of leadership; personnel practices; interpersonal communications; motivation; performance appraisal and counseling; decision making and problem solving. Lecture, discussion, case studies, and group exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Management (9/76). NOTE: Credit should be granted for this course or for MC-105, but not for both.

Cryptologic Management for Managers (MC-210)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 70 hours (2 weeks).
Dates: September 1973–Present.
Objective: To enable mid-level managers to broaden their knowledge of modern management concepts, philosophy, and techniques as well as of behavioral science.
Instruction: Components of the management process; organization theory; motivation; job enrichment; management by objectives; network theory and analysis; transactional analysis; organization development. Lecture, discussion, case studies, and practical exercises are used.
Credit recommendation: In the upper division baccalaureate or in the graduate degree category, 3 semester hours in Business Administration or Management (9/76). NOTE: A substantial portion of the material presented in this course is covered in MC-120. Therefore, credit should not be granted for MC-120 if it is granted for MC-210.

Cryptologic Management for Supervisors (MC-120) (Behavioral Sciences Concepts and Applications in Management)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 70 hours (2 weeks).
Dates: September 1969–Present.
Objective: To enable students to increase their effectiveness as first-line supervisors through knowledge of behavioral sciences and their applications to management.
Instruction: Interpersonal communications and conflict resolution; performance appraisal and counseling; leadership styles and group behavior; management of personnel; motivational theories and applications. Lecture, discussion, case studies and group exercises are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Management (9/76). NOTE: A substantial portion of the material covered in this course is covered in MC-210. Therefore, credit should not be granted for MC-210 if it is granted for MC-120.

Executive-Level Problem Analysis and Decision Making Seminar (MG-320)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 50 hours (5 1/2 days); residential; 30 hours preparatory independent study.
Dates: June 1969–Present.
Objective: To enable executive-level managers to improve their ability to integrate the concepts of problem solving and decision making with those of the communication process.
Instruction: Communication, planning, and problem solving; concept integration; quantitative decision making; problem diagnosis and means-ends analyses; group process and individual approaches. Extensive use is made of case studies and practical exercises.
Credit recommendation: In the upper division baccalaureate or in the graduate degree category, 3 semester hours in Management (9/76). NOTE: Credit should be granted for this course or for MG-230, but not for both.

Introduction to Supervision (MC-105) (Introduction to Management)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 35 hours (1 week).
Dates: September 1970–Present.
Objective: To enable new supervisors to develop interpersonal and administrative skills to improve their job performance.
Instruction: The functions of supervision; styles of leadership; personnel practices; interpersonal communications; motivation; performance appraisal and counseling; decision making and problem solving. Lecture, discussion, case studies and group exercises are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Management (9/76). NOTE: Credit should be granted for this course or for MC-107, but not for both.

Managerial Grid Seminar (MG-240)

Location: National Cryptologic School, Ft. Meade, MD.
Length: 50 hours (5 1/2 days); residential; 30 hours preparatory independent study.
Dates: January 1967–Present.
Objective: To enable managers to understand and apply the management grid concept.
Instruction: Introduction to the managerial grid; clarification of the grid concept, with special emphasis on application of grid techniques. Extensive use is made of practical exercises.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours, or in the graduate degree category, 1 semester hour, in Business Administration or Management (9/76).

Manager Level Decision Making Seminar (MG-230)

Location: National Cryptologic School, Ft. Meade, MD.; San Angelo, TX.
Length: 50 hours (5 1/2 days); residential; 30 hours preparatory independent study.

Dates: December 1970–Present.

Objective: To enable mid-level managers to improve their ability to integrate the concepts of problem solving and decision making with those of the communication process.

Instruction: Communication, planning, and problem solving; concept integration; total systems integration; problem diagnosis and means-ends analyses; group process and individual approaches. Extensive use is made of case studies and practical exercises.

Credit recommendation: In the upper division baccalaureate or in the graduate degree category, 3 semester hours in Management (9/76). NOTE: Credit should be granted for this course or for MG-320, but not for both.

Procurement Management for Technical Personnel (MT-420) (Procurement)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 30 hours (5 weeks); 2 three-hour meetings per week.

Dates: December 1966–Present.

Objective: To provide personnel whose assignment is related to procurement with an understanding of the regulatory, procedural, and statutory requirements that form the basis of the contract function in Defense Procurement.

Instruction: Procurement planning; national policy and source selection; types of contracts. Lecture and discussion are used.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration or Marketing (9/76).

Transactional Analysis (MG-255)

Location: National Cryptologic School, Ft. Meade, MD.

Length: 28 hours (2 weeks); two full day sessions per week; 8 hours preparatory independent study.

Dates: October 1975–April 1976.

Objective: To enable managers to improve management skills through interpersonal communications.

Instruction: Definition of ego states; application of ego states in interpersonal communications; role of transactional analysis. Lecture and discussion are used, with special emphasis on practical exercises.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Behavioral Science (9/76).

The National Union of Hospital and Health Care Employees, District 1199C

The National Union of Hospital and Health Care Employees, District 1199C, represents the workers of approximately 50 hospitals and health care facilities in the Philadelphia area. The Training and Upgrading Fund is an educational program established as a result of collective bargaining agreements with many of the health care institutions and is a cooperative union-management operation.

The Training and Upgrading Fund was established in Philadelphia in 1974 and provides educational services on several levels. In addition to a tuition reimbursement program and a full time scholarship program, there is a Continuing Education Program. This program offers college level courses, high school equivalency courses, and technical in-service training.

Since June 1978, the Continuing Education Program has been offering college level courses. The courses are taught at the union headquarters after working hours and are open to all union members. Basic collegiate courses in mathematics, English, and social sciences are offered.

Source of official student records: Training and Upgrading Office, National Union of Hospital and Health Care Employees, District 1199C, 1317 Race Street, Philadelphia, Pennsylvania 19107.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Pennsylvania Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Algebra and Calculus (Calclus I)

Location: Philadelphia, PA.

Length: 45 hours (9 weeks).

Dates: June 1978–Present.

Objective: To provide students with a basic college level calculus course.

Instruction: Graphs; functions; derivatives; differentiation; second derivatives; anti-derivatives; the fundamental theorem of calculus; applications of calculus in the biological sciences or in business. Lecture, problems, midterm and comprehensive final examination are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Math (7/78).

Elementary Statistics

Location: Philadelphia, PA.

Length: 45 hours (9 weeks).

Dates: September 1978–Present.

Objective: To provide students with a basic understanding of descriptive statistics including an introduction to inferential statistics.

Instruction: Frequency distributions; measures of central tendency; permutation; binomial distributions; normal distributions; sampling techniques and statistical inferences. Lecture, discussion and homework are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Statistics (7/78).

National Weather Service Technical Training Center

The National Weather Service, an agency within the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Commerce, established the Technical Training Center to provide residence courses in meteorology, electronics, management, and supervision for employees. Limited space is made available to personnel of other U.S. government agencies and foreign countries which have cooperative weather program agreements with the United States. The Center also administers a correspondence program for National Weather Service employees.

Source of official student records: Coordinator of Student Affairs, National Weather Service Technical Training Center, 617 Hardesty, Kansas City, Missouri 64124.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Air Pollution Meteorology (APM01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 64 hours (2 weeks).

Dates: May 1975–Present.

Objective: To enable professional meteorologists to serve as air pollution specialists.

Instruction: Forecasting the atmosphere's ability to transport and dilute emitted pollutants; recognition of pending atmospheric stagnation; sources and hazards of various pollutants; Briggs plume rise equations; atmospheric dispersion equations.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Meteorology (10/77).

Basic Meteorological Technician (BMT01) (Introduction to Meteorology)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 304 hours (8 weeks).

Dates: April 1974–January 1978.

Objective: To qualify the student to enter the meteorological technician/observer job series.

Instruction: Lecture, hands-on training, and practical sessions in basic meteorology, weather code interpretation, instrument operation and observation, communication equipment operation, and weather station operation. Also includes instruction in basic English (oral and written skills), basic mathematics, and geography. Course does not require knowledge of calculus.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Meteorology (3 semester hours in lecture and 1 semester hour in laboratory) (10/77).

Fundamentals of Meteorology (FOM01) (Aviation Meteorology)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 184 hours (5 weeks).

Dates: February 1973–February 1976.

Objective: To qualify Meteorological Technicians to deliver weather briefings to pilots.

Instruction: Lectures and practical exercises in basic meteorology, reading forecasts, and communication techniques in providing weather briefings to pilots. Also includes instruction in elementary aeronautics.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Meteorology (10/77).

Instructor Training (ITT01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 72 hours (9 days).

Dates: January 1974–Present.

Objective: To prepare students to serve as instructors in training programs.

Instruction: An overview of the psychology of learning, preparation of lesson plans, use of training aids, speech development, and familiarization with evaluation techniques. Students prepare and present sample lessons.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Education (12/77).

Radar Meteorology—A Short Course (RSC01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 104 hours (3 weeks).

Dates: November 1977–Present.

Objective: To enable the student to apply radar principles and theory to the practical operation of weather radars, and to interpret and disseminate accurate radar data.

Instruction: Radar principles; interpretation of radar scope depictions; measurement techniques; integration and analysis; the dissemination of radar information. (Prerequisite: Mathematics through trigonometry and one year of college physics).

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Meteorology (10/77).

Radar Meteorology—WSR-57 (RAD01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 144 hours (4 weeks).

Dates: January 1972–Present.

Objective: To enable the student to apply radar principles and theory to the practical operation of the WSR-57, to operate the WSR-57 at an acceptable level of competence, and to interpret and disseminate accurate radar data.

Instruction: Theory and operation of the primary weather surveillance radar used by the National Weather Service; basic mathematical and physical principles in radar; radar principles; radio wave progagation; interpretation of radar scope depictions; measurement techniques; integration and analysis; the dissemination of radar information.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Meteorology (10/77).

Radar Meteorology—WSR-74 (LWR01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 144 hours (4 weeks).

Dates: December 1974–Present.

Objective: To enable the student to apply radar principles and theory to the practical operation of the WSR-74, to operate the WSR-74 at an acceptable level of competence, and to interpret and disseminate accurate radar data.

Instruction: Theory and operation of the local warning surveillance radar used by the National Weather Service; mathematical and physical principles in radar, radar principles; radio wave propagation; interpretation of radar scope depictions; measurement techniques; integration and analysis; dissemination of radar information.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Meteorology (10/77).

Upper Air Observations (UAO01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 224 hours (6 weeks).

Dates: December 1974–Present.

Objective: To enable meteorological technicians to take, record, and disseminate rawinsonde observations.

Instruction: A practical course providing instruction in flight equipment preparation, balloon release, instrument tracking and data reduction by computer methods. Also includes interpolation and extrapolation techniques, encoding and decoding data, selecting mandatory and significant levels, and operation of communications equipment. Course does not require knowledge of calculus.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Meteorological Instrumentation Laboratory (10/77).

Weather Service Operations (WSO01)

Location: National Weather Service Technical Training Center; Kansas City, MO.

Length: 144 hours (4 weeks).

Dates: May 1970–Present.

Objective: To increase the Weather Service Specialist's ability to use all National Weather Service products and programs and to improve his/her ability to communicate weather information.

Instruction: Lectures and practical exercises in three major subject areas: oral and written communications, preparation of adapted local forecasts from National Meteorological Center Guidance products, and special topics. The communications area covers preparation of weather reports and pilot briefings through videotaped student presentations. Special topics include flash flood warnings, hydrology, avaiation weather, hurricanes, winter storms, and severe local storms. This course is equivalent to a first course in synoptic meteorology.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Communications and in the upper division baccalaureate category, 3 semester hours in Meteorology (10/77).

Opportunities Academy of Management Training, Inc.

The Opportunities Academy of Management Training, Inc. was founded in September 1974 with the goal of providing community based management, operational and economic development training, and other services for a

broad range of clients. The objectives of the Academy are: (1) to provide training programs for the Opportunities Industrialization Center's (OIC) national and international network; and (2) to provide the non-profit sector with a resource of management skills training courses for professionals and para-professionals who help minorities and disadvantaged populations improve their performance and potential.

The Academy offers a broad range of courses which deal with identifying management and operational needs, promoting economic development, providing career development, and facilitating financial management.

Source of official student records: Director's Office, Opportunities Academy of Management Training, Inc., 1415 N. Broad Street, Philadelphia, Pennsylvania 19122.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Pennsylvania Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Affective Education

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: March 1978-Present.
Objective: To explore the use of affective education as an instructional method in order to involve individuals in the learning process.
Instruction: Study of people, their perceptions, and experiential learning; identification of dysfunctional behavioral patterns and their effect on interpersonal relations and the accomplishment of group tasks. Role-playing, gaming, simulation, lecture, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degee category, 2 semester hours in Administration (e.g., Personnel), Education (e.g., Counselor Education, Educational Psychology, Humanistic Education, Urban Education), or Psychology (3/78).

Comprehensive Employment and Training Act

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: September 1975-Present.
Objective: To present a history of manpower programs, emphasizing recent CETA legislation in order to create effective manpower systems.
Instruction: Techniques for implementing the legislation review models for effective program design. Reviews recent PSE amendments and explores their impact on the economy. Covers manpower policy; CETA; PSE Title VI Projects; Youth Legislation (Job Corps, Youth Adult Conservation Corps, Youth Entitlement, Comprehensive Youth Program). Lecture, workshop, and laboratory are used.
Credit recommendation: In the graduate degree category, 2 semester hours in Human Resources, Labor Policy, Public Administration or Urban Education (3/78).

Corporate Planning for Nonprofit Organizations (MSDC VI)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: March 1978-Present.
Objective: To enable supervisors and managers to develop and use a comprehensive corporate plan based on management and behavioral theories.
Instruction: Corporate planning; operational goals; unit objectives; budgeting; action steps; performance assessment. Lecture, discussion, and laboratory are used.
Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Management (3/78).

Counseling for the Disadvantaged

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: October 1975-Present.
Ojbective: To provide a knowledge of approaches and methods used in career counseling for the economically disadvantaged.
Instruction: Counseling techniques; the uses and limitations of counseling in manpower programs; vocational assessment; role definition of counselors. Case study, lecture, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Education (e.g., Adult Education, Counseling Education, Urban Education, Vocational Education) or Social Welfare (3/78).

Functions of a Manager (MSDC I)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: December 1973-Present.
Objective: To increase the effectiveness of supervisors and managers by providing knowledge of modern management concepts and techniques as they relate to planning, leadership, organization, and control.
Instruction: Time management priority setting; decision making; staff selection and development; analysis of performance discrepancies; communication. Lecture, discussion, and case studies are used.
Credit recommendation: In the graduate degree category, 2 semester hours in Business Administration or Management (3/78).

Improving Management Skills (MSDC III)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: January 1975-Present.

Objective: To enable supervisors and managers to improve their ability to use the concepts of problem solving and decision making in the communication process.

Instruction: Styles of managing conflict; conducting meetings; conference and group interaction; planning and proposal analysis; transactional analysis; business writing. Lecture, discussion, and case studies are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Management (3/78).

Introduction to Accounting and Internal Control

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: December 1977–Present.

Objective: To provide a basic understanding of the accounting cycle, including the recording, classifying, summarizing, and reporting of financial information.

Instruction: Accounting cycle, including recording, classifying, summarizing, reporting; accounting equation, including assets, liabilities, fund balance; journals, including general, cash disbursements, and receipts, payroll journal; trial balance; reports, including balance sheets, statement of revenue and expenses, statement of functional expenses; internal control, including accounting controls and management controls. Lecture and laboratory are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Accounting (3/78).

Job Development for the Disadvantaged (Employment Analysis: Development and Placement for the Disadvantaged)

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: October 1975–Present.

Objective: To introduce methods and techniques for developing employment opportunities for the disadvantaged.

Instruction: Course presents a method for creating an employment information and placement system and training of its use. Affirmative Action; in-service training models; follow-up techniques in field visitation; development of employer advisory committees. Lectures and laboratory are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education (e.g., Distributive Education, Urban Education) or Social Welfare (3/78).

Management Control in Nonprofit Organizations

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: November 1976–Present.

Objective: To provide knowledge and skills in structuring financial and statistical data for management planning, control, and evaluation.

Instruction: Fundamentals of management control in nonprofit organizations, e.g., output measures; program accounting; responsibility accounting; other control concepts; relationship of program and responsibility structure; management cycle. Lecture and laboratory are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or Management (3/78).

Management and Ownership Training

Location: Philadelphia, PA and other regional locations.
Length: *Version 1:* 390 hours (13 weeks); day.
Version 2: 182 hours (14 weeks); night.
Dates: January 1968–Present.

Objective: To provide persons who are entering business, who own businesses, or who are interested in managing businesses owned by other persons with training on how to own and operate successful businesses.

Instruction: *Versions 1 and 2:* Ownership; management; business math; finance; business communication; business law; accounting and taxation; business and politics; marketing; federal taxation; economic concepts; stocks and bonds. *Version 1:* An internship model for individuals with no business experience. *Version 2:* A work-study model for persons with business experience who work in a business setting. Course uses internship, lecture, seminar, and laboratory.

Credit recommendation: *Versions 1 and 2:* In the upper division baccalaureate category, 30 semester hours, or in the graduate degree category, 15 semester hours in Administration, Business, or Management (3/78).

Management through Teamwork (MSDC II)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: April 1974–Present.

Objective: To enable supervisors and managers to increase their effectiveness through study of behavioral science and its applications to management.

Instruction: Interpersonal communications and conflict resolution; leadership styles and group behavior; motivational themes and applications; management of personnel. Lecture, discussion, and case studies are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Management (3/78).

Manpower Services to Disadvantaged Youth

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: March 1978–Present.
Objective: To help students understand, work with, and provide manpower services for youth.
Instruction: Course identifies manpower needs of youth, presents strategies which serve the economically disadvantaged. Indentification and recruitment; basic education; vocational training; counseling and placement; potential occupational development to obtain regular competitive employment; job and labor market information; community resources and referral agencies; the criminal justice system relative to youth and models of youth programs, e.g., Neighborhood Youth Corps (NYC), Urban Conservation Corps (UCC), Job Corps and Urban Career Education Center (UCEC). Lecture, discussion, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Education (e.g., Counselor Education, Urban Education), Human Services, Juvenile Justice, Social Work, or Public and Urban Policy (3/78).

Motivating the Disadvantaged

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: October 1975–Present.
Objective: To provide knowledge about attitudes and expectations of the disadvantaged and unemployed.
Instruction: Philosophies and models of human motivation (Maslow, McGregor); counseling and testing; methods, techniques, and strategies for motivation; staff development and communications techniques. Lecture, discussion, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Education (e.g., Counselor Education, Psychology of Education, Urban Education) and Psychology (3/78).

Open-Entry/Open-Exit Skill Training

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: September 1976–Present.
Objective: To provide instructional methods for use in training groups with varied backgrounds and skill levels.
Instruction: Techniques for planning and implementation of a particular skill training system, including organization and management of open-entry/open-exit skill training; role of the counselor and job developer; techniques for developing curriculum; in-service training for instructors and staff; role of employers in developing curriculum; placement from open-entry/open-exit skill training. Lecture, workshops, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education (e.g., Adult Education, Counselor Education, Urban Education or Vocational Education) (3/78).

Personnel Management (MSDC V)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: December 1977–Present.
Objective: To increase managers' effectiveness in personnel relations.
Instruction: Selection and development of subordinates; appraisal by objectives; grievance handling; the manager and the law; analysis of performance discrepancies. Lecture, discussion, and case studies are used.
Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Management (3/78).

Pre-Vocational Training (Methods in Pre-Vocational Training)

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: November 1975–Present.
Objective: To provide instructors with methodology for providing basic education to adults.
Instruction: Methods of motivation and individualized instruction; development and selection of materials necessary for the design and implementation of adult basic education programs. Lectures, laboratory, and workshops are used.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education (3/78).

Program Assessment and Evaluation

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: August 1976–Present.
Objective: To provide methods of determining how effectively a program achieves its objectives (including contract compliance).
Instruction: Various levels of review: direct service component operation, prime sponsorships, state and federal levels; effect of formative and summative evaluation on operation; manual and computerized information systems. Lecture and case studies are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration, Educational Psychology, Management, Urban Education, or Public and Urban Policy (3/78).

Program Planning Design and Implementation

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: October 1977–Present.
Objective: To provide stategies and techniques for integrated planning and implementing of program operations.
Instruction: Fundamentals of manpower planning; leadership styles and their effects on planning; planning curriculum; program implementation skills; establishing objectives and performance standards; integrating of planning process between supervisors and line staff. Lecture and case studies are used.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or Management (3/78).

Tools for Better Management (MSDC IV)

Location: Philadelphia, PA and other regional locations.
Length: 32 hours (1 week).
Dates: May 1976–Present.
Objective: To provide supervisors and managers with techniques for problem solving and analysis.
Instruction: Management by objectives; transactional analysis; PERT (Program Evaluation Review Techniques). Lecture, discussion, simulation, and case studies are used.
Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Management (3/78).

Vocational Education Instruction

Location: Philadelphia, PA and other regional locations.
Length: 30 hours (1 week).
Dates: January 1978–Present.
Objective: To provide methods for systematic development of vocational instruction.
Instruction: Strategies for instructional development and implementation; developing materials and activities for the target population; use of on-job-training site work experience and work simulation; improving course effectiveness; performance measurement. Lecture, discussion, workshop, and laboratory are used.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Education (e.g., Industrial Arts, Vocational Education) (3/78).

Orange County Electrical Joint Apprenticeship and Training Trust

Electrical Workers Local 441 of the International Brotherhood of Electrical Workers and the National Electrical Contractors Association, Orange County, California Chapter, jointly sponsor the Electrician Apprentice program to train members of Local 441 to work as wiremen and linemen in the electrical construction industry. Local 441 has 1800 members performing electrical skills in the Orange County area.

Each year apprentices receive 175 hours of classroom instruction and 2000 hours of on-the-job training. Apprentices are rotated among contractors in the area to receive training on all aspects of work performed by wiremen and linemen. To receive journeyman status, all four years of the program must be completed.

Source of official student records: Training Director, Orange County Electrical Joint Apprenticeship and Training Trust, 1210 S. Wright Street, Santa Ana, California 92705.
Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Electrician Apprentice (Inside)

Location: International Brotherhood of Electrical Workers Local 441 and National Electrical Contractors Association Joint School, Rancho Santiago Community College District, Santa Ana Junior College, Santa Ana, CA. Job sites in Orange County, CA.
Length: Four years.
Dates: January 1971–Present.
Objective: To prepare apprentices for journeyman status in the electrical construction (inside) industry.
Instruction:
First Year: Principles of direct current, alternating current, and electromagnetism; National Electrical Code requirements pertaining to cable conduit and grounding; operation of electric motors; Ohm's Law, series circuits, parallel circuits, magnetism, and motors; safety procedures and first aid resuscitation; reading and sketching elevation views and plot plans including symbols and scales; materials in the electrical construction industry including wires and composition, cables, conduit, conductors, insulation, joints, fasteners, and fuses; under supervision, installation of electrical apparatus such as cables, conduit, tubing, outlet boxes, outlets, fixtures, and securing and holding devices at various job sites; orientation to the apprenticeship form of education and training, the electrical industry, the history of the electrical industry, the International Brotherhood of Electrical Workers, local union by-laws, and the history of the operation and contribution of the National Electrical Contractors Association.

Second Year: Installation and use of electrical meters and instruments; types, classifications, construction, single-phase connections and diagrams; National Electrical Code requirements relating to grounding, grounded conductors, and calculations for service, feeders, and branch circuits of residential and small commercial installations. Sketching of mechanical parts; use of algebra and trigonometry in making calculations for alternating current circuits with various configurations of inductance, capacitance, and resistance; bending small conduit sizes in bends, offsets, kicks, and saddles; operating principles of refrigeration and air conditioning systems and common troubles in these systems; elements of rigging; electric motor mechanical drive and load connections; operating principles and connections for incandescent lamps and fire alarms; use of architect's blueprint and layouts; first aid procedures, including those for electrical shock victims; safety rules and practices for the electric construction industry; basic of parliamentary procedure; apprentices perform increasingly complex work tasks through a series of six-month job rotations.

Third Year: Application of National Electrical Code requirements for capacitors, electric motors, and hazardous locations, including Class I, II, and III installations; use of blueprints of multifloor structures for structural details, floor plans, service entrances, and distribution, risers, and general circuiting; further study of alternating current, including power factor correction, three-phase circuits and motors, and florescent lamps and ballasts; bending of intermediate size conduit, and use of hydraulic benders; theory of operation, connection, and control of electric motors, including split phase, capacitor, repulsion, shaded-pole, and universal type; three-phase transformer connections; analysis and repair of malfunctions in motor control; motor protective devices; application of knowledge by assuming increasingly complex responsibilities and performing complex tasks in work settings that are rotated each six months.

Fourth Year: National Electrical Code requirements pertaining to wire closets, junction boxes, and stairway and emergency lighting; metric system conversions; rules pertaining to radiation exposure, protection, reaction, and other features of nuclear safety; transistor principles and circuits and vacuum tube fundamentals; use of electronic testing equipment; basic rectifier circuits, amplifier circuits, special circuit applications, and transistor use; static control fundamentals, including concepts, circuits, analysis and applications; motor maintenance; alternating current applications in industrial electricity; fundamentals of temperature, pressure, and flow; instrumentation systems; installation and testing of electrical construction materials; use of electrical construction equipment.

Credit recommendation: ***First Year:*** In the lower division baccalaureate/associate degree category, 2 semester hours in Basic Electricity, 1 in National Electrical Code, 1 in Blueprint Reading and Sketching, 1 in Orientation to Electrical Construction, 1 in Electrical Construction Materials and Methods, and 1 in Field Experience in Electrical Construction, for a total of 7 semester hours. Also recommend one-third of requirements toward a Vocational Certificate in Electrical Trades or 7 semester hours (11/77).

Credit recommendation, ***Second Year:*** In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Electricity, 3 in Electrical Construction Materials and Methods, 2 in field experience in Electrical Construction, 2 in National Electrical Code, 2 in Technical Mathematics, 2 in Blueprint Reading and Sketching, 1 in Orientation to Electrical Construction, 1 in Safety and First Aid, and 1 in Shop Practices, for a total of 18 semester hours. Also recommend two-thirds of requirements toward a Vocational Certificate in Electrical Trades or 18 semester hours (11/77).

Credit recommendation, ***Third Year:*** In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Electricity, 4 in Electrical Construction Materials and Methods, 3 in National Electrical Code, 3 in Blueprint Reading and Sketching, 3 in field experience in Electrical Construction, 2 in Technical Mathematics, 2 in Industrial Electricity, 1 in Motor Controls, 1 in Orientation to Electrical Construction, 1 in Safety and First Aid, and 1 in Shop Practices, for a total of 25 semester hours. Recommend that a Vocational Certificate in Electrical Trades be awarded at the successful completion of the third year of the Program (11/77).

Credit recommendation, ***Fourth Year:*** In the lower division baccalaureate/associate degree category, 5 semester hours in Electrical Construction Materials and Methods, 4 in Basic Electrical Code, 4 in Blueprint Reading and Sketching, 4 in field experience in Electrical Construction, 3 in Industrial Electricity, 2 in Safety and First Aid, 2 in Motor Controls, 1 in Motor Maintenance, 2 in Technical Mathematics, 2 in Shop Practices, 2 in Electronics, 1 in Instrumentation, and 1 in Orientation to Electrical Construction, for a total of 37 semester hours (11/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Philadelphia Lithographic Institute

The Philadelphia Lithographic Institute is a non-profit training center for apprentices and journeymen of unions in the Delaware Valley that are members of the Graphic Arts International Union. The Institute conducts over 35 multi-level professional development and training programs for employees from numerous plants. The Institute is directly supported by the graphic arts industry in the area.

Source of official student records: Director, Philadelphia Lithographic Institute, 1310-28 East Sedgley Avenue, Philadelphia, Pennsylvania 19134.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Lithographic Cameraman Apprentice (Graphic Arts Photographer)

Location: Philadelphia Lithographic Institute, Philadelphia, PA, and job sites in Philadelphia.

Length: Four years.

Dates: January 1975–Present.

Objective: To prepare apprentices for journeyman status as lithographic cameramen.

Instruction:

First Year: History and development of photography; role of photomechanics in the graphic arts industry; theory and physics of light, including sources, illumination, transmission reflection, refraction, and absorption; methods of controlling light and illumination; nomenclature of lenses, lens construction, the meaning and relationship of focal length, aperture, and image formation, including enlargements and reductions; types of copy; chemical properties; characteristics and reactions of the various processing solutions (developers, stopbaths, fixers, etc.) used in the graphic arts photographic industry; physical properties, different bases, dimensional stability, photographic characteristics, speed, color sensitivity, and reaction to filtered light of various photographic films and papers; differentiation between line, continuous tone, and color copy in graphic arts photomechanics; determination of types of line copy and photography of each type, using process cameras, contact methods, and enlargers; graphic arts industry methods for making halftones (glass screens, contact screens, and prescreened film); methods of controlling tonal ranges with both mechanical (gray scales) and electronic (densitometers) devices; creation of halftones, using each method; use of methods requiring special-effect contact screens, dropout halftones, duotones, and positive screened prints and positives.

Second Year: Theories and techniques of color separation photography; application of additive and subtractive color theory; application of direct, indirect, and scanning methods in producing sets of separation negatives; sensitometry and densitometry; use of technical equipment to measure optical density and to plot density ranges; use of several masking techniques for color correction, including single-stage masking, two-stage masking, camera-back masking, Ektacolor masks, Agfa-Gevaert multi-masks, and Kodak's tri-masks; production of separation negatives using the enlarger, contact, and process camera methods; determination of method of masking for each set of separation negatives; screening of sets of separation negatives (either positive or negative form) by enlarger, contact, and process camera methods; use of several methods of prepress proofing for each set of separations.

Third Year: Application of knowledge and skills to performing a variety of increasingly complex on-the-job tasks.

Fourth Year: Application of knowledge and skills to performing a variety of still more complex on-the-job tasks. Completion of the requirements for journeyman certification.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 2 semester hours in Halftone Photography and Special Effects, 2 in a practicum in Graphic Arts, 1 in Photographic Chemistry, and 1 in Light and Optics, for a total of 6 semester hours (10/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 4 semester hours in a practicum in Graphic Arts, 2 in Halftone Photography, 1 in Photographic Chemistry, 1 in Light and Optics, 1 in Theory of Color Separation Photography and Control Services, 1 in Masking Techniques, 1 in Separation Negatives, and 1 in Screening and roofing, for a total of 12 semester hours (10/77).

Credit recommendation, *Third Year:* In the lower division baccalaureate/associate degree category, 8 semester hours in a practicum in Graphic Arts, 2 in Halftone Photography, 1 in Photographic Chemistry, 1 in Light and Optics, 1 in Theory of Color Separation Photography and Control Devices, 1 in Masking Techniques, 1 in Separation Negatives, and 1 in Screening and Proofing, for a total of 16 semester hours (10/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 12 semester hours in a practicum in Graphic Arts, 2 in Halftone Photography, 1 in Photographic Chemistry, 1 in Light and Optics, 1 in Theory of Color Separation Photography and Control Services, 1 in Masking Techniques, 1 in Separation Negatives, and 1 in Screening and Proofing, for a total of 20 semester hours (10/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Lithographic Platemaking Apprentice

Location: Philadelphia Lithographic Institute, Philadelphia, PA, and job sites in Philadelphia.

Length: Four years.

Dates: January 1975–Present.

Objective: To prepare apprentices for journeyman status as lithographic platemakers by providing them with the technical knowledge and skills about the tools, equipment, materials, and methods of the trade.

Instruction:

First Year: Covers the photo offset lithograph printing process, including the steps necessary to reproduce various types of copy (line, continuous tone, and color), the materials needed, the equipment used, and the major types of classes of work produced; advantages, limitations, and trends in equipment and material used in the trade; types of plates (surface, wipe-on, pre-sensitized, deep etch, multimetal, photopolymer, and dry offset), chief characteristics of each type, use of various types, ph, solvents, fountain etches, plate etches, gums, acids, alkalines, salts, and mixing of solutions, as they apply to the trade; effects of humidity on platemaking; properties of emulsions and coatings; light characteristics, such as light sources, wave length, and methods of exposure; use of sensitivity guides, star (tone) targets, and light integrators to determine exposure results; types of litho plate exposure devices and their

operations and maintenance; problems that affect water and ink receptivity; recognition of and compensation or correction for, potential problems in exposure caused by masking materials, films, tape, equipment conditions, and plate imperfections; additions, deletions, and corrections to images on various types of plates; function of plate processing chemicals; desensitization, development, and preservation of types of lithographic plates; processing plates manually and by machine; maintenance of machine processors.

Second Year: Producing layouts from written job specifications, positioning of multiple images per plate; positioning of different images of different sizes on a plate; operation and maintenance of photocomposing machines used for step-and-repeat platemaking; operation of machines requiring both manual and numerical control (automatic) for positioning images during exposure of the plate; production of proofs, using such processes as Gevaproof, NAPS, PAPS, Kwik Proof, Cromoline, Dylux, Polyproof, Color Key, and Transfer Key; use of pin register systems and register punches to align images during plate exposure for step-and-repeat (multiple images on one plate) and masking operations.

Third Year: Advances skills through the application of knowledge and performing increasingly complex on-the-job tasks.

Fourth Year: Advances skills through the application of knowledge and performing increasingly complex on-the-job tasks; completion of the requirements for journeyman certification.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Introduction to Offset Printing Processes, 1 in Exposure Control Devices and Lithographic Plate Processing, and 1 in practicum in Lithographic Platemaking, for a total of 3 semester hours (10/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 2 semester hours in a practicum in Lithographic Platemaking, 1 in Introduction to Offset Printing Processes, 1 in Exposure Control Devices and Lithographic Plate Processing, 1 in Photocomposing, and 1 in Prepress Proofing and Register Systems, for a total of 6 semester hours (10/77).

Credit recommendation, *Third Year:* In the lower division baccalaureate/associate degree category, 4 semester hours in a practicum in Lithographic Platemaking, 1 in Introduction to Offset Printing Processes, 1 in Exposure Control Devices and Lithographic Plate Processing, 1 in Photocomposing, and 1 in Prepress Proofing and Register Systems, for a total of 8 semester hours (10/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 6 semester hours in a practicum in Lithographic Platemaking, 1 in Introduction to Offset Printing Processes, 1 in Exposure Control Devices and Lithographic Plate Processing, 1 in Photocomposing, and 1 in Prepress Proofing and Register Systems, for a total of 10 semester hours (10/77).

NOTE: The credit recommendation are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Lithographic Stripper Apprentice (Arranger of Negatives on Flats)

Location: Philadelphia Lithographic Institute, Philadelphia, PA, and job sites in Philadelphia.

Length: Four years.

Dates: January 1975–Present.

Objective: To prepare apprentices for journeyman status as lithographic strippers.

Instruction:

First Year: Orientation to the printing processes of offset, gravure, and letterpress; relationship of the lithographic stripper to other craftsmen in the industry; the advantages and limitations of each printing process; determining the most practical method or process for a job; application of mathematical skills in solving problems of layout and stripping (positioning images), using fractions, decimals, proportions, circumference of circles, triangulation, and screen angle determination; use and take care of basic stripping tools, triangles, T-squares, pencils, pens, rulers, compasses, dividers, protractors, scribing tools and needles, magnifiers, circle centerfinders, and cutting instruments; characteristics, advantages, and limitations of bases, masking and photographic material; selection of the most appropriate material(s) for meeting the written or implied job specifications; drawing basic reference lines for plate bends, gripper margins, vertical centers, job margins, and trim marks on both uncalibrated and calibrated light and register tables; functioning of the lithopress during the printing process; layout of a dummy (sample) of 4-, 8-, 16-, and 32-page booklets, using parallel and french folding techniques; identification and layout of pages, covers, and signatures; major binding methods (side stitching, saddle stitching, sewing, glueing, and perfect binding) and special considerations in stripping a job for a specific binding method; methods or special techniques used for sheetwise, work and turn, and work and tumble impositions; stripping film in proper position, using register devices and masking materials for step-and-repeat exposure; selection and use of the appropriate or required quality control device (sensitivity guides, color bars, color blocks, color strips, gray scales, dot gain scales, and slur gauges) to ensure the accuracy of reproduction; determination of screen angles in film images in order to prevent or eliminate moire patterns or unacceptable interference in flat color (tints) and 3- and 4-color process work; identification of major parts of the process camera and their functions; camera operations involved in the production of line, halftone, and process color jobs; light source, films, manual and machine processing of film, control guides, and types of screens (glass and contact); communication with the camera operator; identification of the need for and production of contact and duplicate film images, using direct and indirect contacting materials; production of chokes and spreads (knockouts, outlines) and limit masks required for tint panels, flat color, halftones, fitting process color, etc.; use of chemical reducers to modify and correct defects in film images.

Second Year: Production of full-color jobs within given tolerances by selecting appropriate mounting material (paper flats, clear support bases, vinyl sheets or masks), creat-

ing necessary tint screen panels, producing needed one-piece film assemblies, and properly positioning all elements; production of proofs, using processes such as Gevaproof, NAPS, PAPS, Kwik Proof, Cromoline, Dylux, Polyproof, Color Key, and Transfer Key; positioning of film images from written specifications, allowing for proper positioning of multiple exposures on a single sheet of film or offset plate.

Third Year: Application of knowledge and skills to performing increasingly complex on-the-job tasks.

Fourth Year: Application of knowledge and skills to performing increasingly complex on-the-job tasks. Completion of the requirements for journeyman certification.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 2 semester hours in a practicum in Stripping, 1 in Stripping Materials and Tools, 1 in Imposition and Bindery, and 1 in Methods and Materials of Litho Camera Photography, for a total of 5 semester hours (10/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 4 semester hours in a practicum in Stripping, 2 in Color Stripping, 1 in Prepress Proofing and Machine Imposition, 1 in Stripping Materials and Tools, 1 in Imposition and Bindery, and 1 in Methods and Materials of Litho Camera Photography, for a total of 10 semester hours (10/77).

Credit recommedation, *Third Year:* In the lower division baccalaureate/associate degree category, 8 semester hours in a practicum in Stripping, 2 in Color Stripping, 1 in Prepress Proofing and Machine Imposition, 1 in Stripping Materials and Tools, 1 in Imposition and Bindery, and 1 in Methods and Materials of Litho Camera Photography, for a total of 14 semester hours (10/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 12 semester hours in a practicum in Stripping, 2 in Color Stripping, 1 in Prepress Proofing and Machine Imposition, 1 in Stripping Materials and Tools, 1 in Imposition and Bindery, and 1 in Methods and Materials of Litho Camera Photography, for a total of 18 semester hours (10/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Offset Printing Pressman Apprentice (Pressman)

Location: Philadelphia Lithographic Institute, Philadelphia, PA, and job sites in Philadelphia.

Length: Four years.

Dates: January 1975–Present.

Objective: To prepare apprentices for journeyman status as pressmen and to develop skills in the safe handling and operation of all tools and equipment used in the offset press craft area.

Instruction:

First Year: Pressroom health and safety; wash up of plates, blankets, rollers, and fountains; lubrication of wear points; knowledge of varieties of printing papers and inks and the methods of their manufacture; kinds of printing plates and the plate(s) to select to meet printing requirements; operation and adjustment of the feeder, register board, blanket and plate and impression cylinders, delivery unit, and water and ink systems.

Second Year: Registering the printing image; controlling the paper as it moves through the printing unit; composition of inks; mixing and color-matching inks; problems with inks on presses; kinds and uses of packing, wet film thickness, densitometers and optical comparator gauges; plate pre-makeready operations; installation and positioning of color plates; maintenance of plates, blankets, and rollers; nomenclature of the web press; cylinder arrangements and identification of web presses; solving operation problems on the web press.

Third Year: Advances operational and maintenance skills by performing increasingly complex on-the-job tasks.

Fourth Year: Advances operational and maintenance skills by performing increasingly more complex on-the-job tasks. Completion of the requirements for journeyman certification.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Orientation to Offset Printing, 1 in Paper and Inks, 2 in Printing Press Operation, and 2 in a practicum in Offset Printing, for a total of 6 semester hours (10/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 5 semester hours in a practicum in Offset Printing, 2 in Printing Press Operation, 2 in Paper and Inks, 1 in Orientation to Offset Printing, 1 in Image Registration, 1 in Multicolor Press Operation, and 1 in Introduction to the Web Press, for a total of 13 semester hours (10/77).

Credit recommendation, *Third Year:* In the lower division baccalaureate/associate degree category, 8 semester hours in a practicum in Offset Printing, 2 in Printing Press Operation, 2 in Paper and Inks, 1 in Orientation to Offset Printing, 1 in Image Registration, 1 in Multicolor Press Operation, and 1 in Introduction to the Web Press, for a total of 16 semester hours (10/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 12 semester hours in a practicum in Offset Printing, 2 in Printing Press Operation, 2 in Paper and Inks, 1 in Orientation to Offset Printing, 1 in Image Registration, 1 in Multicolor Press Operation, and 1 in Introduction to the Web Press, for a total of 20 semester hours (10/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

Press Feeder

Location: Philadelphia Lithographic Institute, Philadelphia, PA, and job sites in Philadelphia.

Length: Four years.

Dates: January 1975–Present.

Objective: To prepare apprentices for journeyman status as press feeders and to set up and adjust the press inking system, dampening system, rollers, wash-up equipment, feeder and delivery cylinders, and plates and blankets.

Instruction:

First Year: Pressroom health and safety rules and regulations; operation of running controls; wash-up plates, blankets, rollers, and fountains; lubrication of wear points; knowledge of varieties of paper, their manufacture, and problems encountered in press running with each variety; operation of press feeder; installation of blankets on blanket cylinders and printing plates on plate cylinders; installation of ink and dampening rollers; fountain adjustments; operation of wash-up equipment.

Second Year: Application of knowledge and skills to performing a variety of increasingly complex on-the-job tasks.

Third Year: Application of knowledge and skills to performing a variety of increasingly complex on-the-job tasks.

Fourth Year: Completion of the requirements for journeyman certification.

Credit recommendation, *First Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Ink and Water Systems, 1 in Press Mechanics, and 1 in a practicum in Press Feeder Operation, for a total of 3 semester hours (10/77).

Credit recommendation, *Second Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Ink and Water Systems, 1 in Press mechanics, and 3 in Press Feeder Operation, for a total of 5 semester hours (10/77).

Credit recommendation, *Third Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Ink and Water Systems, 1 in Press Mechanics, and 5 in Press Feeder Operation, for a total of 7 semester hours (10/77).

Credit recommendation, *Fourth Year:* In the lower division baccalaureate/associate degree category, 1 semester hour in Ink and Water Systems, 1 in Press Mechanics, and 7 in Press Feeder Operation, for a total of 9 semester hours (10/77).

NOTE: The credit recommendations are cumulative; readers should use the recommendation that corresponds to the number of years completed by the student.

The Picker Corporation

The Picker Corporation designs, manufactures, and markets diagnostic and therapeutic medical equipment, including diagnostic X-ray, ultrasound, and nuclear medical equipment, as well as cobalt therapy equipment. Picker has 14 manufacturing facilities in North America, three in Europe, and sales and services offices in over 70 countries.

The James Picker Center for Continuing Education was established to provide professional and managerial career development for employees. Courses are also offered to customers on the use and servicing of Picker equipment. The Training Center provides modern facilities for classroom and laboratory instruction, audiovisual programs, and hands-on experience with operational equipment in a simulated work environment.

Source of official student records: Manager, Technical Training, James Picker Center for Continuing Education, 1020 London Road, Cleveland, Ohio 44110.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Basic and 500D Magna Scanner (Y001RT00)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 24 hours lecture and discussion and 16 hours of laboratory per week; 8–10 hours preparatory independent study through programmed instruction.

Dates: March 1975–Present.

Objective: To introduce service personnel to nuclear medicine and the Magna Scanner and to enable them to calibrate, troubleshoot, and repair the equipment.

Instruction: Basic discussion of radioisotope measurement in nuclear medicine; theory and operations of solid state radioisotope scanner, including rectilinear scanners, pulse height analyzer, grid and density control circuits. Laboratory experience in calibration, troubleshooting, and obtaining actual scans. The color printer is also discussed.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electronics Laboratory (10/76).

Basic X-Ray Phase I (U560RT01)

Location: All field offices; James Picker Center for Continuing Education, Cleveland, OH.

Length: 80–120 hours; self-paced, individualized instruction completed in the home office or in residence.

Dates: January 1975–Present.

Objective: To introduce new service personnel to the medical x-ray field, as well as to radiation production, safety, x-ray film production, and anatomy.

Instruction: Survey course which introduces the fundamentals of x-rays and their effects in the medical field. Introduction to anatomy; limited theory of x-ray production; discussion of x-ray-tissue interaction; equipment used in x-ray production detection and image formation. Some troubleshooting techniques for the x-ray production and the image-forming and film-processing systems. Standard safety considerations are discussed.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biomedical Equipment Technology, Clinical Engineering, or Electronics (10/76).

Basic X-Ray Phase II (U560RT02)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 26 hours of lecture and discussion and 14 hours laboratory per week; 14–18 hours preparatory independent study through programmed instruction.

Dates: April 1973–Present.

Objective: To enable service personnel to operate, troubleshoot, maintain, and calibrate single-phase, solid-state x-ray generating systems, as well as to select and use appropriate test equipment for radiation measurements and other tests.

Instruction: Theoretical consideration of and practical experience with single phase generators; test equipment; safety circuits, power supplies, system logic, solid-state driver and timer circuitry; high voltage circuitry; troubleshooting techniques; x-ray tubes circuitry; phototimers.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Biomedical Equipment Technology or Electronics (10/76).

Basic X-Ray Phase III (U560RT03)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 26 hours lecture and discussion and 14 hours laboratory per week.

Dates: April 1973–Present.

Objective: To enable service personnel to calibrate, maintain and troubleshoot x-ray image-forming systems.

Instruction: Closed circuit television systems (TV camera chain including image intensifiers and lenses); cine and spotfilm cameras; radiation measurements.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biomedical Equipment Technology or Electronics Technology (10/76).

Diagnostic Ultrasound Operation (Introduction to Diagnostic Ultrasound Operation)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 36 hours (1 week); residential; 25 hours lecture and discussion and 11 hours laboratory per week.

Dates: September 1974–Present.

Objective: To enable medical and paraprofessional personnel to operate diagnostic ultrasound instruments in order to obtain optimal diagnostic images, and to introduce them to the principles of diagnostic ultrasound.

Instruction: Theoretical treatment of basic ultrasound physics, anatomy, and physiology. Practical experience by performing midline echograms, heart examinations, scans of the liver, gallbladder, pancreas, kidneys, spleen, abdominal aorta, and pelvic organs, and ophthalmic and thyroid examinations. Introduces techniques of A-mode, B-mode, and M-mode.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Clinical Engineering, Diagnostic Ultrasound Technology, Medical Technology, or Nursing (10/76). NOTE: Credit should not be granted for both this course and the Echocardiology course. If both are taken a maximum of 2 semester hours is recommended.

Dyna Camera III (Y098RT00)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 160 hours (4 weeks); residential; 26 hours of lecture and discussion and 14 hours of laboratory per week.

Dates: November 1975–November 1977.

Objective: To provide service personnel with an understanding of the concepts of the basic nuclear camera, the microprocessor, and the production of diagnostic images.

Instruction: Theory of radiation detection as applied to the nuclear camera. Microprocessors used to interpret camera data and subsequent production of energy spectra analysis and to produce a diagnostic image. Troubleshooting through applications of the theory of operation for the following circuitry: high speed analog signal processing, analog and digital storage, pulse height analysis, digital control and counting.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biomedical Equipment Technology and 2 semester hours in Biomedical Equipment Technology Laboratory or Electronics Laboratory (10/76).

Echocardiology

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 28 hours (4 days); residential.

Dates: February 1976–Present.

Objective: To introduce medical and paraprofessional personnel to the principles of diagnostic ultrasound and to teach them to operate diagnostic ultrasound instruments in order to obtain optimal diagnostic images of the heart.

Instruction: Theoretical treatment of basic ultrasound physics and heart structure. Practical experience by performing heart examinations. This course provides a brief introduction to echocardiology; additional clinical training is necessary before competence in ultrasound can be obtained.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Clinical Engineering, Diagnostic Technology, Medical Technology, or Nursing (10/76). NOTE: Credit should not be granted for both this course and the Diagnostic Ultrasound course. If both are taken a maximum of 2 semester hours is recommended.

1. GX1050 (G754RT00)
2. GX600 (G753RT00)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 40 hours (1 week) each course; residential; 10 hours lecture and discussion and 30 hours laboratory per week; 40 hours preparatory independent study through programmed instruction.

Dates: *1:* September 1973–Present.
2: January 1973–Present.

Objective: To provide service personnel with a basic working knowledge of the three phase solid state x-ray generating systems and to enable them to troubleshoot, maintain, and calibrate these systems.

Instruction: *Courses 1 & 2:* Basic controls; timing diagrams; power supplies; core memory; digital logic; digital troubleshooting; servo systems; phototimer; fluoro auto brightness circuitry. *Course 1:* Places more emphasis on digital logic and troubleshooting.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biomedical Equipment Technology, Electronics Technology Laboratory, or Engineering Technology Laboratory (10/76).

NRC Cobalt (H057RT01)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 20 hours lecture and discussion and 20 hours laboratory per week.

Dates: September 1976–July 1978.

Objective: To provide service personnel with a basic knowledge of radiation theory, safety aspects of cobalt radiation, and experience with a cobalt radiation unit.

Instruction: Basic radiation theory, including properties of isotopes and nuclear radiation characteristics. Half-life; radiation shielding; inverse square law; units of dose and dose calculation. The advantages and disadvantages of various radiation detection instruments are discussed. Practical experience is given in the repair and troubleshooting of a cobalt treatment unit. Emphasis on safety when working with radiation sources. Government regulation and licensing procedures are discussed.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Radiation Technology and 1 semester hour in Electromechanical Laboratory (10/76).

Rapido/Rap-4 (C200RT00)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 38 hours (1 week); residential; 8 hours lecture and discussion and 30 hours laboratory per week; 48–60 hours preparatory independent study through programmed instruction.

Dates: February 1975–Present.

Objective: To establish the relationship between the electronic and mechanical sequences of operation of the Rapido table and to enable service personnel to troubleshoot the equipment.

Instruction: Electromechanical interface and sequential operation of relays, solenoids, chain drives, gear drives, belt drives, air-compressor, vacuum pump, infrared sensors and interlock system.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Laboratory (10/76).

Techniques of Persuasion

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 36 hours (1 week); residential; follow-up in the field (consisting of 16 taped lessons and exercises).

Dates: September 1972–Present.

Objective: To enable the student to understand and apply various techniques of effective selling.

Instruction: Buyer motivations; selling techniques; analyzing and overcoming customer problems; sales management; after-sale account management; time and territory management. Lectures, discussion, and role play are used in the classroom instruction portion. Sixteen video and audio taped follow-up modules are used by the student in the field to reinforce the five-day course. Case studies are also used in the field component.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Salesmanship (2/77). NOTE: For completion of the five-day residential course only, 1 semester hour in the upper division baccalaureate category is recommended.

Tomolex (T113RT00)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 64 hours (8 days); residential.

Dates: June 1975–Present.

Objective: To enable service personnel to understand the principles of tomography necessary to evaluate tomographic x-ray exposures as well as to operate and maintain the Tomolex table under all modes of operation.

Instruction: Theoretical treatment of and practical experience with mechanical positioning systems; motors—related drive circuitry; mechanical and electrical calibration techniques; CMOS logic circuits.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electronic Technology Laboratory (10/76).

Ultrasound Phase I (W001RT01) (Diagnostic Ultrasound Instrumentation)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 26 hours of lecture and discussion and 14 hours of laboratory per week; 10 hours preparatory independent study through programmed instruction.

Dates: September 1975–Present.

Objective: To enable service personnel to operate diagnostic ultrasound instrumentation in order to obtain optimal diagnostic images, as well as to maintain, evaluate, and calibrate a cardiac ultrasound unit.

Instruction: Introduction to the basic concepts of diagnostic ultrasound, including discussion of A,M,B scan modes and practical experience in obtaining and analyzing ultrasonograms. Details of the instrumentation used for ultrasound scanning; calibration and troubleshooting techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biomedical Equipment Technology or Electronics Technology (10/76).

Ultrasound Phase II (W001RT02)

Location: James Picker Center for Continuing Education, Cleveland, OH.

Length: 80 hours (2 weeks); residential; 22 hours of lecture and discussion and 18 hours of laboratory per week.

Dates: January 1976–Present.

Objective: To provide service personnel with a knowledge of laminographic scanning systems and gray scale principles and to enable them to calibrate and maintain ultrasound systems.

Instruction: Maintenance and repair of laminographic scanning systems of ultrasound equipment. Knowledge of circuits such as auto center, auto zoom, scanning sweeps, scan converters, and TV circuitry.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Biomedical Equipment Technology Laboratory or Electronic Technology Laboratory (10/76).

The Pittsburgh Psychoanalytic Center, Inc.

The Pittsburgh Psychoanalytic Center was founded in April 1974 with the goal of developing a community-based center for psychoanalytic studies. The objectives of the Center are (1) to provide an interface with the professionals, paraprofessionals, and lay community in which the body of psychoanalytic knowledge and theory could be used for mutual benefit to enrich the knowledge and skills of all concerned; (2) to provide community-wide specialty programming in the area of the psychoanalytic contributions; (3) to provide education for interested lay persons; (4) to provide training to professionals working with children, and direct services in the form of therapy and consultation to children and their families; and (5) to support and maintain the Lewin Memorial Library as a resource for the Pittsburgh Psychoanalytic Society and members of the Center.

Source of official student records: Administrative Director, Pittsburgh Psychoanalytic Center, Inc., 211 N. Whitfield Street, Pittsburgh, Pennsylvania 15206.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

The Application of Psychoanalytic Concepts to Therapy and Counseling (Seminar B)

Location: Pittsburgh, PA.

Length: 50 hours (25 weeks).

Dates: June 1978–Present.

Objective: To present an overview of psychoanalytically oriented individual psychotherapy in terms of its historical roots, metapsychology, technique, process and practice considerations.

Instruction: Origins of psychoanalysis; psychodynamic formulation; the development of a data base; evolution of technical interventions; transference and countertransference; problems in psychotherapy; termination and follow-up. Weekly sessions include lectures followed by small discussion groups. Clinical material and extensive bibliography provide focus for theoretical constructs. Pre and post clinical vignettes are given to assess understanding of content, and are analyzed by a group of the Center's faculty.

Credit recommendation: In the graduate degree category, 3 semester hours in Allied Health Professions, Child Care/Child Development, Education (e.g., Counselor Education, Early Childhood Development, Special Education), Nursing, Psychology, Rehabilitation Counseling, Social Work, or Speech Pathology and Communications (5/78). NOTE: Examinations were developed for this course in June 1978. Students completing the course prior to that date are given the option of taking the exam to have the credit recommendation apply to them. Successful completion of the examination is indicated on the student's record.

Basic Psychoanalytic Theory (Seminar C)

Location: Pittsburgh, PA.

Length: 32 hours (16 weeks).

Dates: June 1978–Present.

Objective: To provide an understanding of psychoanalytic concepts, to present the basic psychoanalytic theory, and to provide a frame of reference for understanding mental balance and imbalance.

Instruction: Models of the mind; object relations theory; theory of adaption; topographic theory and repression; affect development overview; anxiety and depressive affect; return of repressed and repetition compulsion, sadomasochism; psychic structure and character and ego ideal; dreams. Students are expected to accomplish comprehensive reading assignments in advanced psychoanalytic theory. Lecture and discussion are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Allied Health Professions, Child Care/Child Development, Education (e.g., Counselor Education, Early Childhood Development, Special Education), Nursing, Psychology, Rehabilitation Counseling, Social Work, or Speech Pathology and Communications (5/78). NOTE: Examinations were developed for this course in June 1978. Students completing the course prior to that date are given the option of taking the exam to have the credit recommendation apply to them. Successful completion of the examination is indicated on the student's record.

Life Cycle from a Psychoanalytic Perspective (Seminar A)

Location: Pittsburgh, PA.
Length: 48 hours (27 weeks).
Dates: June 1978–Present.

Objective: To present an integrated psychoanalytic view of human development from pregnancy and the neonate through senescence.

Instruction: Infant and toddler state; the oedipal period; latency and preadolescence; adolescence; young adulthood and parenthood; middle age to senescence; cross-cultural perspectives. Each lecture is followed by a discussion period. Students apply the extensive readings and the theoretical constructs to actual clinical experiences.

Credit recommendation: In the graduate degree category, 3 semester hours in Allied Health Professions, Anthropology, Child Care/Child Development, Education (e.g., Counselor Education, Early Childhood Development, Special Education), Nursing, Psychology, Rehabilitation Counseling, Social Work, or Speech Pathology and Communications (5/78). NOTE: Examinations were developed for this course in June 1978. Students completing the course prior to that date are given the option of taking the exam to have the credit recommendation apply to them. Successful completion of the examination is indicated on the student's record.

The Play Therapist Training Program (Play Therapy Course)

Location: Pittsburgh, PA.
Length: 165 hours (43 weeks).
Dates: January 1972–Present.

Objective: To provide students with an understanding of the theory and the clinical skills necessary to evaluate the emotional development of normal and deviant children.

Instruction: Introduction to psychoanalytic theory; a review of child development with emphasis on the child's play as a vehicle for the observation of psychic development; introduction to the use of Anna Freud's assessment profile. Students who have begun clinical practice with intensive individual supervision go on to study the application of the theory to their work and end the course with presentations of completed assessment profiles. Includes clinical practices, clinical supervision, and a lecture series.

Credit recommendation: In the graduate degree category, 12 semester hours in Child Care/Child Development, Education, (e.g., Counselor Education, Early Childhood Development, Special Education), Nursing, Psychology, Social Work, or Speech Pathology and Communications (4/77).

Portland Cement Association

Portland Cement Association is a voluntary association of manufacturers of portland cement. It is a nonprofit corporation serving the cement and concrete industry in the United States and Canada. Its primary activities are scientific research, the development of new or improved products and methods, technical service, promotion, and education.

The PCA educational effort is coordinated through the work of the Educational Services Department, which offers courses at the Cement and Concrete Center in Skokie, Illinois. Courses are offered in technical areas dealing with cement and concrete technology and its application; in nuclear power plant construction; and in sales, marketing, and management. Programs are offered at other locations, depending upon need and availability of facilities. In addition, the department is responsible for the execution of manpower contracts with governmental agencies for the training of union craftsmen at regional locations throughout the country. A series of in-house programs for self-development of PCA staff rounds out the total educational effort.

Source of official student records: Director, Educational Services Department, Portland Cement Association, 5420 Old Orchard Road, Skokie, Illinois 60076.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Advanced Concrete Technology

Location: Skokie, IL.
Length: 31 3/4 hours (1 week).

Dates: August 1977–Present.

Objective: To identify, analyze and discuss a wide range of field problems in portland cement concrete technology and construction.

Instruction: Procedures for placing of concrete; concrete floor construction; analysis of concrete failures; use of and problems with admixtures, lightweight concrete, and ready mixed concrete; quality assurance programs. Methodology includes lecture, demonstration, case study, and workshop.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Applied Portland Cement Concrete Technology (4/77).

Basic Concrete and Related Field Practice

Location: Skokie, IL.

Length: 38 hours (1 week).

Dates: August 1977–Present.

Objective: To teach and demonstrate the basic concepts of concrete technology and their use in the management of concrete quality.

Instruction: Discussion and demonstration of concrete materials, principles of quality concrete, and concrete construction. Mix-design problems are worked out in small laboratory groups and verified with test specimens. Methodology includes lecture, demonstration, and laboratory.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Portland Cement Concrete Technology (4/77).

Concrete for the Authorized Nuclear Inspector

Location: Skokie, IL.

Length: *Version 1:* 33 3/4 hours (5 days).
Version 2: 61 hours (2 weeks).

Dates: *Version 1:* August 1977—Present.
Version 2: May 1978—Present.

Objective: To present information on Portland Cement Concrete for those who plan to take the National Board of Boiler and Pressure Vessel Inspectors examination to qualify for nuclear construction code work.

Instruction: *Versions 1 and 2:* Materials used in concrete; principles of quality concrete; concrete construction. Requirements relating to the Code for Concrete Reactor Vessels and Containments (Section III, Division 2, ACI Standard 359-74) are covered. Methodology includes lecture, discussion, and laboratory.

Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Portland Cement Concrete Technology (4/77). *Version 2:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Portland Cement Concrete Technology (9/78).

Concrete Technology and Codes

Location: Skokie, IL.

Length: *Version 1:* 35 hours (1 week).
Version 2: 60 hours (2 weeks).

Dates: *Version 1:* June 1976–May 1977.
Version 2: August 1977–Present.

Objective: *Versions 1 and 2:* To provide participants with an understanding and knowledge of concrete technology, materials, and codes as applicable to the construction of nuclear facilities.

Instruction: *Versions 1 and 2:* Materials for concrete; field and laboratory testing of concrete; evaluation of strength tests; concrete production and field placement; steel for reinforced and prestressed concrete, including splicing procedures; applicable codes. Methodology includes lecture and demonstration.

Credit recommendation: *Version 1:* In the upper division baccalaureate category, 2 semester hours in Portland Cement Concrete Technology and Code Applications (4/77). *Version 2:* In the upper division baccalaureate category, 2 semester hours in Portland Cement Concrete Technology and Code Applications, and 2 semester hours in Construction Materials (9/77).

Effective Sales Management

Location: Skokie, IL.

Length: 33 hours (1 week).

Dates: October 1978–Present.

Objective: To provide the knowledge and skills required to perform essential sales management functions.

Instruction: Covers the essential skills needed to effectively manage a sales force. Organizing and staffing; coaching and counseling; sales communications; time management; performance appraisals; effective sales meetings; related financial information. Lecture, discussion, role playing, and videotaped playback are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Marketing (9/78).

Kiln Optimization

Location: Skokie, IL.

Length: 34 hours (5 days).

Dates: August 1977–Present.

Objective: To familiarize participants with the principles of the optimum utilization of portland cement kilns.

Instruction: Raw material considerations; kiln operation, including feeder-end, calcining zone, clinkering zone, and cooling zone; clinker-cooler operation. Emphasizes the use of diagnostic techniques to obtain optimum product quality and energy efficiency. Methodology includes lecture and discussion.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Portland Cement Kiln Operation (4/77).

Level I Inspection Technician (Nuclear)

Location: Skokie, IL.
Length: 31 3/4 hours (1 week).
Dates: October 1975–Present.
Objective: To qualify the participant for nuclear code certification as a Level I Inspection Technician, as specified by the American Concrete Institute Standard 359-74.
Instruction: Quality requirements for portland cement concrete used in reactor vessels and containments; basic inspection required for concrete; shipping, receiving, and storage of materials; inspection of reinforcing steel to include mechanical splices; field and laboratory tests of fresh concrete; laboratory tests of materials; finishing, patching, and curing of concrete. Reports and documentation of all tests are discussed.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Portland Cement Concrete Testing and Inspection (4/77).

Level II Inspector (Nuclear)

Location: Skokie, IL.
Length: 29 1/2 hours (5 days).
Dates: April 1976–Present.
Objective: To qualify the participant for nuclear code certification as a Level II Inspector, as specified by the American Concrete Institute Standard 359-74.
Instruction: Code specifications for concrete reactor vessels and containments; inspection plans; checklists; concrete batching; concrete transportation and equipment; structural repairs; reinforcing systems; formwork; prestressing systems; field operations; reports; documentation; supervision of Level I personnel.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Concrete Construction Inspection (4/77).

Level III—Training the Trainer (Nuclear) (Survey in Methods of Instruction)

Location: Skokie, IL.
Length: 28 hours (1 week).
Dates: December 1976–Present.
Objective: To prepare Level III inspectors to plan and conduct training programs.
Instruction: Covers training responsibilities, including those in Appendix VII of the American Concrete Institute Standard 359-74. Each participant plans and prepares three training presentations. Student-instructor evaluation and critique is enhanced by video-replay. Also covered are instructor techniques, the learning process, motivation, needs analysis, goals, and criteria for planning for results from any training program.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Methods of Instruction (4/77).

Manager Development I

Location: Skokie, IL.
Length: 20 hours (1 week); 8 hours precourse work.
Dates: October 1978–Present.
Objective: To provide participants with fundamental knowledge and skills to manage effectively.
Instruction: Covers knowledge and skills necessary to be an effective manager. The manager's role; communication in management; time management; interviewing and hiring; planning, organizing, and directing; motivation; delegating; MBO; financial management; leadership skills. Lecture, discussion, role playing, and case studies are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (9/78). NOTE: If both Manager Development I and Manager Development II are completed, 3 semester hours in the lower division baccalaureate/associate degree category in Management is recommended.

Manager Development II

Location: Skokie, IL.
Length: 27 hours (1 week); 4 hours precourse work.
Dates: October 1978–Present.
Objective: To enhance the development of management knowledge and skills for new and experienced managers.
Instruction: Covers basic management concepts, principles, and philosophies. Problem solving and decision making; advanced communications; management of time; management styles; coaching and counseling; effective team management; financial management for nonfinancial managers; managing a crisis; organizational change and conflict; management information systems; career development; managing responses to external forces. Methodology includes role playing and case studies.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (9/78). NOTE: If both Manager Development I and Manager Development II are completed, 3 semester hours in the lower division baccalaureate/associate degree category in Management is recommended.

Management Principles for Concrete Construction

Location: Skokie, IL.
Length: 29 1/2 hours (1 week).
Dates: October 1978–Present.

Objective: To provide managerial skills and information for those in or preparing to enter small and moderate size construction companies.

Instruction: An overview of construction business as it relates to project planning. Nature of construction business; nature of profit in construction; identification of objectives; financial planning; supervision of personnel. Methodology includes lecture, discussion, and case studies.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (9/78).

Microscopy of Clinker and Cement

Location: Skokie, IL.
Length: 33 3/4 hours (1 week).
Dates: August 1977–Present.
Objective: To train participants to evaluate the effects of raw-feed changes on clinker and to evaluate clinker characteristics in relation to early hydration properties and strength potential through microscopic analysis.

Instruction: Microscopic analysis of clinker for strength prediction, emphasizing use of powdered samples (Ono method) and including some use of polished sections and clinker phase identification. Methodology includes lecture and laboratory workshop.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Microscopic Analysis and Control in the Manufacture of Portland Cement (3/77).

Personnel Training (PTC)

Location: Skokie, IL.
Length: 63 1/2 hours (2 weeks).
Dates: August 1977–Present.
Objective: To develop effective communication skills and product knowledge of portland cement for marketing, sales, and technical personnel.

Instruction: Manufacture of portland cement; materials for concrete; proportioning; quality control; construction practices; testing and soil-cement; communication of product information, including preparation and delivery of oral presentations. Methodology includes lecture, laboratory, and communications workshop using video playback and critique.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Concrete Technology and in the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Communications or Marketing (4/77).

Pollution Control

Location: Skokie, IL.
Length: 29 1/2 hours (1 week).
Dates: April 1978–Present.
Objective: To provide an understanding of government environmental standards and of the selection and efficient use of pollution control equipment. Information about particulate control is emphasized.

Instruction: Air and water regulations; economics of dust control; control by process design and modification; control by electrostatic precipitators, baghouses, gravel-bed filters, cyclons, and wet scrubbers; characterization of dusts; emission sources; waste disposal; water pollution regulations and control; noise pollution regulations and control.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Pollution Control (9/78).

Professional Insurance Agents

The Professional Insurance Agents (P.I.A.) is a membership association representing more than 30,000 insurance agencies and 120,000 people in the United States.

P.I.A. disseminates information on education, legislation, and public relations and represents its members in all of these areas.

P.I.A.'s Education Department conducts numerous training seminars and schools at locations throughout the country. Its major educational effort is a series of three week, live-in programs, conducted on college campuses throughout the United States. These programs are taught by professional educators and experienced independent insurance agents.

Source of official student records: Vice President, Education and Insurance Services, Professional Insurance Agents, 400 North Washington Street, Alexandria, Virginia 22314.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Basic Insurance School

Location: Mills College, Oakland, CA; Oberlin College, Oberlin, OH.

Length: 121 hours (3 weeks); residential; plus approximately 40 hours of preparatory independent study.

Dates: January 1976–Present.

Objective: To familiarize the student with the content and principles of basic insurance contracts.

Instruction: Analyzes basic principles of insurance; reviews structure of the insurance business; introduces legal concepts. Provides extensive contract and form analysis for fire and allied lines, ocean and inland marine; liability; workers' compensation; crime; bonds; combination policies. Introduces life and health insurance. Emphasis is shared between commercial and personal applications.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Principles of Insurance and 3 semester hours in Property and Liability Contract Analysis (7/78).

San Diego Employers Association, Inc.

The San Diego Employers Association is a nonprofit voluntary association of business managers. It was incorporated in 1939 and provides professional industrial relations and labor relations services to over 1,200 member companies.

One aspect of its services is its ongoing program of education to strengthen and improve supervisors' ability to manage employees effectively. Emphasis is placed upon broadening the supervisor's capabilities under rapidly changing business conditions.

Source of official student records: Director, Management Development, San Diego Employers Association, Inc., Suite 814, 530 Broadway, San Diego, California 92101.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Graduate Seminar for Supervisors (Advanced Workshop for Supervisors)

Location: San Diego, CA.

Length: 24 hours (8 weeks).

Dates: January 1973–Present.

Objective: To improve the supervisory skills and knowledge of supervisors.

Instruction: A continuation of the basic workshop for supervisors with emphasis on experiential application and role playing exercises. Lecture, discussion, and case studies are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management (6/78). NOTE: Successful completion of Workshop for Supervisors and Graduate Seminar for Supervisors are equivalent to a three-unit course in Supervision.

Workshop for Supervisors

Location: San Diego, CA.

Length: 30 hours (10 weeks).

Dates: September 1968–Present.

Objective: To improve the managerial skills and knowledge of supervisors.

Instruction: A basic course in supervision including communications, leadership, labor law, employment law, human relations, grievances, training, and performance evaluation. Lectures, audio-visual aids, role playing, and problem-solving are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management (5/78).

The School of Banking of the South

The School of Banking of the South, established in 1950, provides an advanced course of study in banking for bank officers and other bank professionals. The three-year program covers bank management and operations topics, including monetary economics and regulatory theory and practice.

The School involves students in the learning process, stimulating them to acquire a better understanding of their banks and the bank's role in a changing environment. Students consider a variety of solutions to problems of their banks and weigh the effects of each.

Attendance at the three two-week summer sessions conducted on the campus of Louisiana State University Baton Rouge and completion of extension work are required for graduation. For evaluation purposes, courses were grouped that are offered throughout the three years of the program. Therefore, students requesting credit must have completed the entire program.

Source of official student records: Registrar, School of Banking of the South, P.O. Box 17680-A, Louisiana State University, Baton Rouge, Louisiana 70893.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

(Business Policy)

1. **First-year Cases**
2. **Simulation I**
3. **Second-year Cases**
4. **Bank Simulation II**

Location: Louisiana State University, Baton Rouge, LA.
Length: 1. 7 1/2 hours (1 week).
2. 15 hours (1 week).
3. 17 hours (1 week).
4. 23 hours (2 weeks); 20 additional hours of group work in the evening is also required.

Students also complete one extension problem requiring approximately 40 hours independent study.

Dates: Completion in 1973-Present.

Objective: To enable students to formulate, analyze, and enact strategies of managing a financial institution through the use of case studies and management interactive games.

Instruction: This course involves continued participation throughout the three year program by requiring the student to formulate and implement policy in the areas of lending, investing, planning, deposit management, reporting, capital, cost control, and liquidity management. The Stanford Bank Management simulator is used in the first year.

Cases throughout the program cover special credit areas, specific phases of bank management and business finance. Third-year students apply policy decisions through the FDIC computer simulation management game.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 4 semester hours in Management (5/78).

(Commercial Lending and Credit Analysis)

1. **Commercial Bank Credit I**
2. **Commercial Bank Credit II**
3. **Consumer Credit**
4. **Real Estate Finance**

Location: Louisiana State University, Baton Rouge, LA.
Length: 1. 8 1/2 hours (1 week).
2. 9 hours (1 week).
3. 8 1/2 hours (1 week).
4. 8 1/2 hours (1 week).

Students also complete four extension problems requiring approximately 160 hours independent study.

Dates: Completion in 1973-Present.

Objective: To provide the fundamentals of commercial lending and analytical techniques used in loan and credit decisions.

Instruction: Covers basic accounting and financial techniques used to analyze income statements, balance sheets, and other financial data. Deals with credit criteria, analysis of loan applications, lending policies, and loan reviews. Covers accounts receivable financing, term loans, seasonal loans, problem loans, loan workouts, and loan profitability. Contains considerable coverage of real estate financing including mortgage lending, principles of real estate valuation, and problem real estate loans. Also deals with consumer credit including auto lending, bank charge cards, second mortgage loans, collections, and consumer credit regulation.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Banking or Finance (5/78).

(Economics)

1. **Monetary Economics**
2. **Interpreting Economic Change**
3. **Economics II or**
4. **Agribusiness**

Location: Louisiana State University, Baton Rouge, LA.
Length: 1. 8 1/2 hours (1 week).
2. 8 1/2 hours (1 week).
3. or 4. 8 1/2 hours (1 week).

Students also complete three extension problems requiring approximately 120 hours independent study.

Dates: Completion in 1973-Present.

Objective: To provide an understanding of the role of the banking system in the economy and of the nature, causes, measurement, and interpretation of business fluctuations.

Instruction: *Courses 1 and 2:* A review of the market system; economic stabilization and the banking system; interpretation of monetary policy; development of the present banking system; nature of business fluctuations; causes and measurement of business cycles; review of information sources; indicators of economic activity; analysis of price indexes; leading theoretical models of inflation; judging turning point in business fluctuations. *Course 3:* A review of the commercial bank as a business form with emphasis on financial management for banks; term structure of interest rates; theories of the determination of the yield curve; methods of forecasting including time series decomposition and a descriptive of economic models. *Course 4:* Agricultural economics with specific reference to farm credit problems; the nature of agricultural production including number and size of farms, cost structure in farming, capital investment in farming, and trends in farm income; governmental programs and policies affecting the agriculture industry; the operation of commodity markets.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Economics (5/78). NOTE: All students complete courses 1 and 2 and either 3 *or* 4, for a total of three courses.

(Legal Environment of Business)

1. **Banking Law I**
2. **Regulatory Problems**
3. **Labor Relations**

Location: Louisiana State University, Baton Rouge, LA.
Length: 1. 9 hours (1 week).
2. 7 1/2 hours (1 week).
3. 8 1/2 hours (1 week).

Students also complete an extension problem requiring approximately 40 hours independent study.

Dates: Completion in 1973–Present.

Objective: To provide a study of the regulatory environment of banking.

Instruction: A review of regulations involved in a consumer law compliance examination, such as Truth-in-Lending Equal Credit Opportunity Act, Holder-in-Due-Course rule, Fair Credit Billing Act, Fair Credit Reporting Act, usury legislation, and Loans to Execute Officers; a review of various legal aspects of bills and notes; the regulations involved in employee relations such as the Fair Labor Standards Act, sex and age discrimination regulations, OSHA, workmen's compensation, EEOC problems, and affirmative action plans.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration (5/78).

(Management of Financial Institutions)
1. Investments
2. Special Banking Problems
3. Bank Marketing
4. Staff Management
5. Trusts Procedures or
6. International Finance
7. Information Systems or
8. Innovative Management

Location: Louisiana State University, Baton Rouge, LA.

Length: 1. 8 1/2 hours (1 week).
2. 8 1/2 hours (1 week).
3. 8 1/2 hours (1 week).
4. 8 1/2 hours (1 week).
5. or 6. 6 hours (1 week).
7. or 8. 8 hours (1 week).

Students also complete four extension problems requiring approximately 160 hours independent study.

Dates: Completion in 1973–Present.

Objective: To examine a variety of managerial techniques and problems applicable to financial institutions.

Instruction: The analysis and management of municipal bonds, U.S. government and agency bonds, bills, and notes; bank marketing including sales, promotion, and marketing management; staff management issues including personnel planning, human relations, leadership, motivation, and communication. Also deals with special topical problems in bank management such as capital planning, risk management, and accounting. *Course 5:* The organization and management of bank trust departments; supervision of trust investments; tax matters; estate planning; other trust related matters. *Course 6:* Basics of foreign trade and foreign banking operations; collections and discounts; exchange controls; letters of credit; banking practices. *Course 7:* The application of financial information in setting objectives and establishing responsibilities for performance; management functions; profit centers; bank automation; cost accounting; pricing of bank services; financial information systems. *Course 8:* The dynamics of management in the context of increasing information about behavior data processing and economics; interpersonal communication, motivation, and management.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Banking or Finance (5/78). NOTE: All students complete Courses 1–4 *and* Course 5 or 6 *and* Course 7 or 8, for a total of six courses.

Seminary Extension, Southern Baptist Seminaries

Seminary Extension is an external theological education program of the six theological seminaries of the Southern Baptist Convention: Southern Baptist Theological Seminary, Southwestern Baptist Theological Seminary, Golden Gate Baptist Theological Seminary, New Orleans Baptist Theological Seminary, Southeastern Baptist Theological Seminary, and Midwestern Baptist Theological Seminary. Each of these institutions is accredited by its regional accrediting agency and by the Association of Theological Schools.

The program of Seminary Extension includes two delivery systems: the Home Study Institute, which offers correspondence courses and other forms of home study, and a network of more than 300 extension centers.

To meet the needs of students with a wide range of educational backgrounds, Seminary Extension offers courses on three levels of difficulty. Basic Curriculum courses (in English and Spanish) are designed for pastors who have had only limited formal education. Courses in the College-Level Curriculum are for pastors and lay persons who are qualified to perform satisfactorily on a college level. The Personal-Career Development Series contains non-credit learning resources primarily for seminary alumni. The courses listed below are in the college-level curriculum.

During the 1976–77, more than 8,000 persons enrolled for study with Seminary Extension. They represented all fifty states and twenty-one foreign countries.

Source of official student records: Seminary Extension Department, 460 James Robertson Parkway, Nashville, Tennessee 37219.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Biblical Backgrounds (BB 101)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To survey systematically the historical geography and archaeology of Bible lands and peoples as a prerequisite to interpreting the Bible's meaning for today.

Instruction: Events from the time of the patriarchs to the time of apostolic church; the world of the Bible in its historical context; political, cultural, economic, and religious factors influencing biblical figures.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Archeology, History, or Religion (11/77).

Christian Ethics (CE 226)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To introduce the ethical teaching of the Bible as a foundation for the responsibilities of marriage and family living, race relations, economic and political life.

Instruction: A comprehensive exploration of the Old and New Testament ethics, and an examination of contemporary social, economic, political, and personal issues as they relate to personal ethics.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Ethics, Philosophy, Religion, or Sociology (11/77).

Dynamics of Teaching (RE 115)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To introduce students to some basic principles of the teaching-learning process, and to develop their teaching skills.

Instruction: A survey of the nature of the relation of the teacher to the teaching task; the steps in lesson plan development; the use of teaching aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Education (11/77).

History of Christian Thought (HCT 174)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To present the widely influential components of Christian thought from the Apostolic Age to the English Reformation using primary documents.

Instruction: An examination and interpretation of numerous historical sources, using a broad chronological framework. In the study of the English Reformation, particular emphasis is given to Baptist thought.

Credit recommendation: In the graduate degree category, 3 semester hours in History of Religion, Religion, or Theology (11/77).

History of Christianity (CH 154)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To introduce the major historical periods and movements of Christianity.

Instruction: Factors that influenced Christianity and were influenced by it. Instruction includes prespectives on the great movements and heresies in Christian history.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in History of Religion (11/77).

How to Understand the Bible (BB 100)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To introduce the student to the nature, purpose, and interpretation of the Bible.

Instruction: Begins with a basic survey of the Bible and progresses through the Bible as literature; principles of Biblical interpretation; canonical development; form criticism; placement in the world of sacred scriptures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in History, Humanities, or Religion (11/77).

Introduction to the New Testament, Part II (NT 122)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To introduce the student to an historical survey of the New Testament documents stressing why these books were chosen for the canon and how the authors selected their contents.

Instruction: Covers the New Testament, book by book, from the Acts of the Apostles through the Revelation of John.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Humanities or Religion (11/77).

New Testament Theology (TH 436)

Length: 16 lessons.

Dates: January 1978–Present.

Objective: To present thematically the teachings of the New Testament based upon exegesis.

Instruction: Teachings of the New Testament, including the Bible, God, humanity, sin, salvation, the church, the ordinances, the ministry, the Christian life, the kingdom, and the ultimate goal of humanity and of history.

Credit recommendation: In the graduate degree category, 3 semester hours in History of Religion, Religion, or Theology (11/77).

The Pastor as a Person (PM 163)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To introduce the student to the nature of the pastor's life and ministry in today's world.
Instruction: An exploration of the essential factors of the pastor's personal function, with attention to role fulfillment, personal investment, value systems, and growth potential.
Credit recommendation: In the graduate degree category, 3 semester hours in Pastoral Ministries (11/77).

Pastoral Care (PM 153) (The Pastor as Counselor)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To provide an understanding of the processes of caring for and counseling church members and others.
Instruction: The pastor's role as counselor; personal problems and self definition; dealing with issues such as grief, marriage conflict, vocational choice, and child-parent relationships.
Credit recommendation: In the graduate degree category, 3 semester hours in Pastoral Counseling (11/77).

Pastoral Ministries (PM 133)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To provide an understanding of the life and work of the pastor in relation to the church's total mission, with attention to the minister's various roles and functions.
Instruction: A guide to the main functions of the parish pastor, such as leading in worship, visiting, counseling, conducting weddings and funerals, and financial management. Attention is also given to the minister's own growth.
Credit recommendation: In the graduate degree category, 3 semester hours in Pastoral Ministries (11/77).

Principles of Preaching (PR 113) (Advanced Exposition)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To prepare the student to develop, deliver, and evaluate sermons.
Instruction: Understanding and appreciating the work of preaching; extensive written work in conception, outlining, and drafting of oral presentations; using resources for ideas, texts, and topics; guidance in various appropriate methods of oral presentations; instruction in long-range preaching plans.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Communications or Homiletics (2/77).

Public Worship (PW 173)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To consider the nature, history, and purpose of corporate worship.
Instruction: An examination of worship from the perspectives of personal experience, theology, psychology, Bible, Christian history, music, and various elements in public worship. Special attention is given to developing skill in planning and conducting public worship.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Religion (11/77).

Systematic Theology (ST 136)

Length: 16 lessons.
Dates: January 1978–Present.
Objective: To provide a comprehensive presentation of the methodical interpretation and organization of the teachings of Christianity.
Instruction: An in-depth exploration of Christian doctrines, with emphasis on revelation, God, creation of humanity, the person and work of Jesus Christ, the church, the Christian life, and the Christian hope using accepted tools of logic.
Credit recommendation: In the graduate degree category, 6 semester hours in History of Religion, Religion, or Theology (11/77).

The Sheraton Corporation

The Sheraton Corporation franchises and manages close to 400 hotels and inns in over 30 countries. Sheraton employs 60,000 people in a broad range of semi-skilled, skilled and professional positions.

Sheraton is engaged in organization development and management development activities worldwide. Both technical and managerial training courses are conducted at Sheraton Training Centers in Philadelphia and Munich. A

third Center will be established in Cairo. Courses are also offered in other locations throughout the United States as needed.

Source of official student records: Director, Management Development, The Sheraton Corporation, 470 Atlantic Avenue, Boston, Massachusetts 02210.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Engineering Management Seminar (Property Management)

Location: Sheraton Training Center; Philadelphia, PA; other locations as needed.

Length: 30 hours (1 week); residential.

Dates: February 1976–Present.

Objective: To introduce supervisory personnel to technical information and procedures pertaining to the operation of the Engineering Department as well as to basic skills of supervision.

Instruction: This course encompasses two areas of instruction. In the segment covering the operation of the engineering department, topics include preventive maintenance, utilities management, engineering specifications, and capital budgeting. The supervisory skills portion includes problem solving, decision making, personnel procedures, motivation, and leadership as they relate to the role of a chief engineer. Lecture, discussion, small group work, case studies and simulations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management and 1 semester hour in Engineering Management (8/76).

Food and Beverage Cost Control Seminar

Location: Sheraton Training Center; Philadelphia, PA; other locations as needed.

Length: 30 hours (1 week); residential.

Dates: February 1975–Present.

Objective: To introduce supervisory personnel to food and beverage cost planning and control.

Instruction: Calculation of food and beverage costs; establishing standards; purchasing and inventory control; production planning; revenue control; auditing. Lecture, discussion and field observation are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Hotel, Restaurant or Institutional Management (8/76).

Front Office Rooms Merchandising

Location: Sheraton Training Center, Philadelphia, PA., other locations as needed.

Length: 30 hours (1 week); residential.

Dates: March 1975–Present.

Objective: To develop the individual's skills related to the operation of a hotel front office and the merchandising of hotel guest rooms.

Instruction: Marketing plan analysis; availability controls; performance analysis; development of a merchandising plan; central reservations systems. Lecture, discussion, small groups, case studies and simulations are used. Case studies are used extensively.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Hotel Management (8/76).

Housekeeping Management Seminar

Location: Sheraton Training Center; Philadelphia, PA; other locations as needed.

Length: 33 hours (1 week); residential.

Dates: June 1975–Present.

Objective: To introduce supervisory personnel to technical information and procedures pertaining to the operation of the Housekeeping Department as well as to basic skills of supervision.

Instruction: This course encompasses two areas of instruction. In the segment covering the operation of the housekeeping department, topics include staff planning, financial controls, materials, and equipment. The supervisory skills portion includes problem solving, decision making, personnel procedures, motivation and leadership as they relate to the role of the executive housekeeper. Lecture, discussion, small group work, case studies and simulations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Management and 1 semester hour in Hotel, Restaurant or Institutional Management (8/76).

Management Skills (Introduction to Management of Human Resources)

Location: Sheraton Training Center, Philadelphia, PA; other locations as needed.

Length: 35 hours (1 week); residential.

Dates: June 1974–Present.

Objective: To provide supervisory personnel with the basic principles of management theory and supervisory techniques.

Instruction: Introduces students to role of the manager, leadership style, planning, motivation, communications techniques, problem solving, decision making, team building, and personal assessment. Also covers group decision making, hiring, orientation and training, time management, and discipline. Lecture, discussion, small group work, case studies and simulations are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management (8/76).

Resident Managers Seminar (Management Theory and Practice)

Location: Sheraton Training Center, Philadelphia, PA; other locations as needed.

Length: 30 hours (1 week); residential.

Dates: May 1976–Present.

Objective: To provide experienced management personnel with a review of current management theory and practice.

Instruction: Examination of effective management methods; self assessment; personal behavior patterns; group behavior; self development. Lecture, discussion, small group work, case studies and simulations are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management (8/76).

Southern California Edison Company

Southern California Edison Company is an investor-owned public utility with headquarters in Rosemead, California. The company supplies electricity to customers within a 50,000 square mile service territory. Southern California Edison has approximately 13,000 employees.

The company offers a variety of educational opportunities to its employees through in-house and outside education and training programs. These opportunities for training and development are available in several fields, including management, clerical, operation, maintenance, and real estate, and specialized areas such as data processing and engineering. The Employee Development Division staff develops management programs and courses designed to meet specific corporate needs, and various departments throughout the company design or send their employees to in-house or outside programs to improve specific skill levels.

Each of the courses listed below has an optional final examination. Please note that the credit recommendations apply *only* to those students who have successfully completed the appropriate examination. Successful completion of the examination is indicated on the student's record.

Source of official student records for the courses "Supervisory Effectiveness Seminar" and "Middle Management Effectiveness Program": Employee Development Division, Southern California Edison Company, 2244 Walnut Grove Avenue, Rosemead, California 91770.

Source of official student records for the courses "Title to Real Property", "Principles of Appraising", and "Real Estate Property Management": Department Training Coordinator, Rights of Way and Land Department, Southern California Edison Company, 100 Long Beach Boulevard, Long Beach, California 90801.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Middle Management Effectiveness Program

Location: Montebello, CA.

Length: 80 hours (10 weeks); one eight-hour session per week.

Dates: October 1976–Present.

Objective: To enhance the student's ability to apply managerial principles and techniques to the types of problems encountered at the middle-management level.

Instruction: The manager's job: the functions of planning; decision making; control; management of human resources; organizational dynamics in developing a model of effective managerial performance. Lecture, discussion, and laboratory techniques are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration (10/76).

Principles of Appraising

Location: Long Beach, CA; Rosemead, CA; San Bernardino, CA.

Length: 30 hours (15 weeks); one two-hour session per week.

Dates: October 1976–May 1977.

Objective: To provide the student with basic knowledge of real-estate valuation.

Instruction: A survey of real-estate appraising; cost, market, and income approaches to value; preparing the appraisal report. The course is taught primarily by means of lecture.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (10/76).

Real Estate Property Management

Location: Rosemead, CA; Long Beach, CA; Rialto, CA.

Length: 45 hours (23 weeks); one two-hour session per week for 22 weeks, plus a one-hour session in the 23rd week.

Dates: October 1976–June 1977.

Objective: To develop a functional understanding of the skills, techniques, and responsibilities involved in property management practices.

Instruction: An analysis of the principles and practices of current real-property management, with emphasis on negotiation, coordination, and communication. Lecture supplemented by discussion is used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (10/76).

Supervisory Effectiveness Seminar

Location: Montebello, CA.

Length: 40 hours (5 weeks); one eight-hour session per week.

Dates: October 1976–Present.

Objective: To provide the student with a basic introduction to supervisory management.

Instruction: An analysis of the processes of planning, organizing, leading, and controlling as applied to supervisory management. Lecture, discussion, and laboratory techniques are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (10/76).

Title to Real Property

Location: Rosemead, CA; Long Beach, CA; San Bernardino, CA.

Length: 20 hours (10 weeks); one two-hour session per week.

Dates: September 1976–October 1976.

Objective: To introduce the fundamentals and principles of title to real property.

Instruction: The methods and techniques used in the interpretation and preparation of legal descriptions for such purposes as the acquisition, administration, and/or disposal of land or land rights and the titles related thereto. The course is taught primarily by means of lecture.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration (10/76).

Southern California Gas Company

The Southern California Gas Company is a wholly-owned subsidiary of Pacific Lighting Company. The Gas Company provides all phases of natural gas public utility service to 3,500,000 customers in 12 counties throughout Central and Southern California. In 1977, Southern California Gas Company regular employees numbered 7,600 persons. Programs are available to both Pacific Lighting (160 employees) and Southern California Gas Company.

The Management Training Staff develops, administers, and conducts programs and courses designed to improve employees' overall managerial effectiveness. The programs usually result from a request for specific training in relation to Company-stated goals.

Source of official student records: Supervisor of Management Training, Southern California Gas Company, Mail Location 634, P.O. Box 3249 Terminal Annex, Los Angeles, California 90051.

Additional information about the courses: The Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Decision Making—Problem Analysis

Location: Gas Company Training Facilities in Southern California.

Length: 40 hours (5 days).

Dates: November 1975–Present.

Objective: To develop an understanding of a specific systematic approach to problem analysis, decision making, and potential problem analysis.

Instruction: A discussion of processes and procedures demonstrated and practiced via case examples. Lectures and discussion of case studies are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (10/77).

Management Orientation

Location: Southern California Gas Company Training Facility, Huntington Park, CA. and other Gas Company facilities in Southern California.

Length: 40 hours (5 days).

Dates: January 1976–Present.

Objective: To acquaint the student with selected responsibilities, tasks, and processes of first-line supervisors and staff personnel.

Instruction: An understanding of basic managerial responsibilities and the concept of staff-line relationships; establishing job standards and setting performance objectives; processes for training and development and procedures for implementation; interviewing techniques; methods helpful in managing time effectively. Lecture, supported by discussion and laboratory/workshops are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (10/77).

(Management Skills Series)
1. Supervisory Instructional Training.
2. Improving Employee Performance.

Location: Southern California Gas Company Training Facility, Huntington Park CA.
Length: 32 hours (4 days over an extended period.)
Dates: 1. January 1973-Present.
2. August 1972-Present.
Objective: To assist supervisors and management personnel with their individual responsibilities for training subordinates, maintaining communications, and improving overall employee performance.
Instruction: *Course 1:* Learning theories, training concepts, and procedures; practice in developing training needs, plans, and programs. *Course 2:* Defining standards of performance, establishing job standards and evaluating job performance. Communication of job performance expectations and job performance evaluation is provided by practice interviews. Methodology includes lecture, discussion, and workshops.
Credit recommendations: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Adminstration or Public Administration (10/77). NOTE: Both courses must be successfully completed in order to recieve credit.

1. Management That Gets Results
2. Motivational Insight

Location: Pomona, California
Length: 1. 37 hours (4 days).
2. 8 hours (1 day).
Dates: 1. April 1972-present.
2. November 1973-Present.
Objective: To increase the understanding and ability of students to supervise work groups.
Instruction: An examination of alternative leadership styles with an emphasis upon participative management and its applicability to the work unit; an understanding of various motivational theories. Methodology emphasizes laboratory exercises and includes lecture, discussion, and films.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (10/77). NOTE: Both courses must be successfully completed for a credit recommendation of 2 hours. "Management that Gets Results" taken alone: In the upper division baccalaureate category, 1 semester hour in Business Adminstration or Public Administration.

Management with Affirmative Action (Affirmative Action: Attitudes and Behaviors)

Location: Southern California Gas Company Training Facility, Huntington Park, CA and other Gas Company facilities in Southern California.
Length: 40 hours (5 days).
Dates: October 1971-Present.
Objective: To increase understanding of personal attitudes and behaviors and their effect on interaction with employees of different cultural backgrounds.
Instruction: This course discusses the backgrounds of different groups with an emphasis on blacks, Mexican-Americans, and women. The cultural attitudes of employees are examined. Methodology emphasizes films, simulations exercises, and discussion.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Social Sciences (10/77).

Managerial Counseling

Location: Southern California Gas Company Facilities, Huntington Park, CA and other Gas Company Facilities in Southern California.
Length: 24 hours (3 days); 25 to 40 hours to prior preparation is required of all students.
Dates: June 1975-Present.
Objective: To develop counseling concepts and techniques as they apply to managerial responsibilities.
Instruction: Selected behavioral models provide a framework for self-assessment and counseling of subordinates. Participants are counseled by instructors and are provided practice in managerial counseling. Methodology emphasizes discussion and laboratory exercises with supplemental lectures, videotapes and films.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (10/77).

Report Writing

Location: Southern California Gas Company Training Facility, Huntington Park, CA and other Gas Company facilities in Southern California.
Length: 24 hours (3 days)
Dates: September 1976-Present.
Objective: To improve the student's report writing skills.
Instruction: The gathering, organizing, and reporting of information. The course provides a process for organizing data into logical sequence, procedures for report preparation, and techniques for improving writing skills. Methodology includes lecture, discussion, and laboratory exercises with peer and instructor critique.
Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration, Education, or Public Administration (10/77).

Staff Assignment

Location: Southern California Gas Company Training Facility, Huntington Park, CA.
Length: 24 hours (3 days).

Dates: August 1977–Present.

Objective: To provide an understanding of the roles and responsibilities unique to the staff assignment and an identification of the skills required for effective staff work.

Instruction: Definition and discussion of the staff role. The course covers the broad areas of staff activities; functioning as a support to managers and to line personnel, advising, counseling, providing assistance; monitoring effectiveness of, and adherence to policies and guidelines. Participants work through the steps of completed staff work. Methodology includes lecture, discussion, and workshops.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration or Public Administration (10/77).

State of California Employment Development Department

The Department administers and operates a statewide employment service, an unemployment insurance program, a disability insurance program, and certain specially funded manpower training programs. The Employment Development Department also gathers and interprets labor market information for both agency and public use. The goals of the Department are to reduce unemployment by providing prompt and efficient services to employers and job seekers and to lessen the impact of unemployment by prompt payment of unemployment or disability benefits when merited according to law.

To meet these goals, the Department provides various in-service courses to train employees for their specific jobs and to enhance their potential for growth and career development.

Source of official student records: Employment Development Department, Management and Staff Development Section, 800 Capitol Mall, MIC #44, Sacramento, California 95814.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Advanced Supervision Training Program

Location: Sacramento, CA; locations throughout the State.

Length: 35 hours (5 days).

Dates: August 1977–Present.

Objective: To improve the effectiveness of first-line supervisors in dealing with organizational behavior, problem solving, and decision making.

Instruction: Introduction to problem solving; decision making; internal relationships; morale and motivation; management of the unsatisfactory employee. A combination of experiential exercises, and small-group projects are used in conjunction with brief informational lecture-discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business or Public Administration (8/77). NOTE: Basic Supervision Training Program and Advanced Supervision Training Program taken together would serve as an appropriate prerequisite to an introductory upper division management course.

Basic Supervision Training Program

Location: Sacramento, CA.

Length: 35 hours (5 days).

Dates: August 1977–Present.

Objective: To acquaint students with basic supervisory skills, knowledge, practices, and responsibilities as applied to a department in a public agency.

Instruction: Supervisory responsibilities including planning, organizing, delegating, and appraising of work performance. The course also covers the responsibilities involved with employee selection, new employee orientation, training, development, grievances, communication, and administrative responsibilities for work scheduling, time reporting, travel authorization, and leave administration. Course material is presented through lectures, discussion, role playing, films, and problem-solving exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration or Public Administration (8/77). NOTE: Advanced Supervision Training Program and Basic Supervision Training Program taken together would serve as an appropriate prerequisite to an introductory upper division management course.

Interviewing Techniques (12140)

Location: Sacramento, Fresno, San Francisco, Los Angeles, Riverside, CA.

Length: 21 hours (3 days).

Dates: October 1974—Present.

Objective: To develop an awareness of self-concept and its effect on communications with special emphasis on improving interviewing skills.

Instruction: Interviewing theories and techniques and skills in their application. Lecture, discussion, and role playing with audiovisual aids are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Communication Studies (1/78).

Management Skills Workshop (13040)

Location: Sacramento, CA.

Length: 35 hours (5 days).

Dates: August 1977–Present.

Objective: To provide an overview of the management process with emphasis on the utilization of materials to improve the student's managerial performance.

Instruction: The management function; the role of the manager; problem-solving strategies; planning techniques; leadership and management style; motivation; delegation; time management. Classroom instruction utilizes lecture, discussion, and experiential learning techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Public Administration (8/77).

Trans World Airlines, Inc.

Trans World Airlines, Inc. (TWA) provides a wide range of training for its own employees (including pilots, cabin attendants, ticket and reservation personnel), and for employees of approved Air Traffic Conference and International Air Transport Association Travel Agencies.

Courses are offered at the Breech Training Academy, a residential training center in Overland Park, Kansas, and at locations throughout the country.

The courses listed below, offered to employees of approved travel agencies, constitute the technical and marketing curricula currently offered.

Source of official student records: Office of the Manager-Agency Training, Breech Training Academy, P.O. Box 7997, Overland Park, Kansas 66201.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Agency Sales and Market Development (202)

Location: TWA, Breech Academy, Overland Park, KS.

Length: 44 hours (1 week); residential.

Dates: January 1971–Present.

Objective: To educate the student in effective selling skills and market development as applied to the travel industry.

Instruction: Covers identification of market segments, the sales function; selling techniques; commercial account; group and incentive market development. Emphasizes the application of selling techniques, including qualifying prospects, effective listening, controlling the conversation, overcoming objections and closing. Also stresses development of a sales presentation, handling telephone inquiries, and client relationships. Instructional methodology includes case studies, videotaped role play, group projects and audio-visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Marketing, Sales, or Travel; or in the upper division baccalaureate category, 1 semester hour in Marketing, Sales, or Travel (7/75).

Air Tariff—International (204)

Location: TWA, Breech Academy, Overland Park, KS.

Length: 46 hours (1 week); residential.

Dates: November 1971–Present.

Objective: To teach the travel agent the principles and techniques of international air tariffs and ticketing.

Instruction: Covers fare construction rules, tariff areas and definitions, mileage and route map systems for group, normal and special fares, and applicable transportation taxes. Employs International Air Transport Association (IATA) ticketing handbook, *Air Tariff,* Government tax charts, and other references including the atlas. Instructional methodology emphasizes practical exercises with individualized instruction, supervision and assistance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

Product Knowledge I (200) (Formerly Basic Agency Product Knowledge [200])

Location: TWA Breech Academy, Overland Park, KS.

Length: 45 hours (1 week); residential.

Dates: January 1971–Present.

Objective: To teach the travel agent trainee the basic principles and techniques related to the airline segment of the travel-agency field.

Instruction: Covers use of basic tools essential to accurate domestic and international airline ticketing. Stresses practice in itinerary planning; standard and group ticket preparation, with construction of domestic fares and application of taxes; credit sales handling. Includes use of Official Airline Guides, domestic tariff, ATC Handbook, and Travel Planner. Instructional methodology emphasizes practical exercises and class participation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

Product Knowledge II (201) (Formerly Advanced Agency Product Knowledge [201])

Location: TWA, Breech Academy, Overland Park, KS.

Length: 47 hours (1 week); residential.

Dates: October 1973–Present.

Objective: To introduce the intermediate travel agency trainee to advanced principles and techniques in arranging domestic and international air transportation.

Instruction: Covers International Air Transport Association (IATA) and Air Traffic Conference (ATC) ticketing regulations and the procedures for preparing Miscellaneous Charges Orders; Tour Orders and tour tickets; air

tour and air/sea bookings; international air travel documentation; use of hotel guides. Instructional methodology emphasizes practical exercises and participation in small groups.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

United Airlines

United Airlines, which has provided air transportation throughout the United States and Canada for more than 50 years, now serves over 100 cities and employs about 50,000 people.

The primary corporate resource for the training of management and customer-contact employees is the Office of Training and Development Services, located in United's Education and Training Center in Chicago. The Center's day-to-day contact with policy makers in the Company's operating divisions insures that programs developed and conducted by Training and Development Services will remain current and responsive to the needs of their requestors. In addition to handling special one-time training requests, Training and Development Services also offers a curriculum of 30 different courses taught annually.

Source of official student records: Training and Development Manager, United Airlines Education and Training Center, Box 66100, Chicago, Illinois 60666.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Business Communications

Location: United Airlines Training Center, Chicago, IL.
Length: 38 hours (5 days); residential.
Dates: July 1978–Present.
Objective: To develop oral and written business communication skills.
Instruction: Purposes of business communication; written and oral presentations; mechanics of the presentation; use of supporting material. Critiqued oral presentations and written exercises are used.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Communications (7/78).

Counseling Skills Workshop (Introduction to Human Relations)

Location: United Airlines Training Center, Chicago, IL.
Length: 36 hours (4 1/2 days); residential.
Dates: July 1978–Present.
Objective: To introduce students to concepts of human relations in an industrial setting.
Instruction: Conflict resolution; problem solving; performance evaluation; behavioral modification. Lecture and discussion are used, with emphasis on role playing.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Social Sciences (7/78).

Instructor Training

Location: United Airlines Training Center, Chicago, IL.
Length: 60 hours (2 weeks); residential.
Dates: July 1978–Present.
Objective: To prepare participants to plan and conduct training programs.
Instruction: Writing objectives and lesson plans; motivation; instructional techniques and methods; use of supporting instructional materials; evaluation tools. Lecture, discussion, role playing, and group exercises are used, with each participant making two teaching presentations which are videotaped and critiqued.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Methods of Instruction (7/78).

The Managerial Grid

Location: United Airlines Training Center, Chicago, IL.
Length: 50 hours (5 1/2 days); residential; 30 hours preparatory independent study.
Dates: July 1978–Present.
Objective: To enable managers to understand and apply the management grid concept.
Instruction: Introduction to the managerial grid; clarification of the grid concept, with special emphasis on application of grid techniques. Practical exercises are used extensively.
Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (7/78).

Supervisor Training and Development (Introduction to Business)

Location: United Airlines Training Center, Chicago, IL.
Length: 42 hours (6 days); residential.
Dates: September 1975–Present.
Objective: To provide managers with an introduction to the American business system and its environment.

Instruction: Selected management principles; social responsibility; environmental factors; government involvement and regulation; corporate structure; basic financial concepts; marketing; economic systems. Lectures, discussion, team projects, and textbook readings are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (7/78).

United States Department of Agriculture Graduate School

The United States Department of Agriculture (USDA) Graduate School is a private, non-profit institution administered by a Board appointed by the Secretary of the Department of Agriculture. It was originally established in 1862 to disseminate agricultural information, but today its primary purpose is to help improve the services rendered by government agencies by providing a range of educational opportunities primarily to government employees. There are various programs available to the students: the Evening Program, the Career Planning and Development Program, the Independent Study Program, the International Program, and the Special Programs.

Instruction is offered in a wide variety of subjects including accounting, computer science, foreign languages, management, mathematics, social and behavioral sciences, and photography. Students choose courses to meet specific needs, which include up-dating skills, advancing in the job, preparing for a different field of employment, and fulfilling personal goals.

Source of official student records: Office of the Registrar, Graduate School USDA, 14th and Independence Avenue, S.W., Washington, D.C. 20250.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Advanced Accounting (E6420)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To teach the student to apply advanced principles of accounting to specific problems.

Instruction: Topics include: consolidated statements, foreign exchange, receivership, estates and trusts, and public accounts. Emphasis on problems in accounting theory and practice as generally given in Certified Professional Accountant examinations. (Prerequisite: Intermediate Accounting or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Accounting (2/75).

American National Government (E6341)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To provide an understanding of the origins of the Federal government.

Instruction: History and origins of national government of the United States. Topics include: political process, parties and elections, legislative process, functions of national government and their administration, courts and judicial reviews of legislation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Government or Political Science (2/75).

Analytic Geometry (E3105)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To provide students with a knowledge of analytical geometry needed for calculus.

Instruction: Fundamental concepts and formulas; line, circle, parabola, ellipse, hyperbola; transformation of coordinates; parametric equations; the second and higher degree equation in rectangular coordinates; graphic solution of equations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Analytical Geometry (2/75).

Calculus (E3206)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 120 hours (30 weeks); 3 ten-week quarters.

Dates: September 1974–September 1978.

Objective: To provide students with a knowledge of differential and integral calculus differential equations.

Instruction: *First quarter:* Variables, functions, limits, continuity, derivatives; applications of the derivative to geometry and physics; maxima and minima; differentials; mean value theorem; simple integration and applications to geometry and physics; radius and circle of curvature; vectors; hyperbolic functions; partial derivatives. *Second*

quarter: Standard integral forms; special methods of integration; approximate methods of integration; improper integrals; indeterminate forms; series; expansion of functions; multiple integrals; introduction to differential equations. *Third quarter:* Continuation of differential equations. (Prerequisites: College Algebra, Trigonometry, and Analytical Geometry.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Calculus (2/75). NOTE: For completion of either or both first and second quarter, proportionally lower credit is recommended.

Conduct of Management Surveys (E6476) (Formerly Applications of Techniques of Management Analysis [E6476])

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1973–September 1978.

Objective: To develop an understanding of the application of a variety of analytical techniques, both traditional and modern, to management problems and strategies, with emphasis on applying the systems approach.

Instruction: Application of problem-solving techniques to management problems. Techniques of conducting management surveys. Designed for beginning management analyst, manager, and supervisor desiring a refresher course. (Prerequisite: Management Concepts for Management Analysis, E6405 [formerly Principles and Techniques of Management Analysis, E6405].)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Cost Accounting (E6642)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To provide the student with an understanding of cost accounting as a highly developed quantitative device for helping managers select and reach their objectives.

Instruction: Principles of cost accounting, together with methods of application to specific problems. Consideration of methods of cost accounting for materials, labor direct and indirect expenses in relation to specific job orders. Process, departmental, and standard costs; control accounts. (Prerequisite: Principles of Accounting.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Accounting (2/75).

Counseling Techniques I (E7545)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1971–September 1978.

Objective: To explore those areas of counseling practices helpful to individuals in teaching, personnel, industrial management, and counseling.

Instruction: Survey of theoretical and practical aspects of guidance and counseling techniques; understanding strengths and limitations; basic techniques utilized in problem situations, which are indicated in order to achieve anticipated goals. Assistance in development of counseling skills as one meets behavioral patterns in teaching, business, family, and personnel management. Discussion of major findings in theory and processes of counseling. Demonstrations through case presentations and their practical application to behavioral problems. Psychodynamics of human behavior relating to specific case material and particular techniques used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education, General Management, Guidance Counseling, or Personnel Administration (2/75).

Counseling Techniques II (E7597)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1971–September 1978.

Objective: To provide an in-depth discussion of specific counseling techniques in counseling situations and problem areas.

Instruction: Specialized review of communication processes occurring in singular sessions of counseling. Interpretations and meaning of nonverbal and verbal communications; significance of counseling material during continuing interviews; developing proficiency and skill in techniques of interview; methods of interview. Individual case studies are presented by students in order to understand thoroughly pertinent basic problem areas and their resolution. Supervisory instruction for understanding the dynamics of counselees' problems. Individual and group therapeutic processes stressed. Counselor and client communications with anticipated counseling expectancies and goals.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education, General Management, Guidance Counseling, or Personnel Administration (2/75).

Employee Training and Development (E6518)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1973-September 1978.

Objective: To enable students to understand and apply a systems approach to training and development.

Instruction: Basics of adult learning; analyzing performance problems in training; task analysis as a training technique; preparing objectives and criterion tests; designing and developing training programs; methods of instruction and the role of the instructor, coach, and supervisor; use of feedback to implement and maintain a training system. Lecture, discussion, programmed instruction, field research, journal reports, and tests are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Industrial Relations or Personnel (9/75).

Employment and Placement (E6512)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970-September 1978.

Objective: To familiarize the student with federal government employment and placement policies and procedures.

Instruction: Staffing in Federal service; manpower picture; manpower planning and utilization; qualification standards; recruitment; examining; selection and appointment; promotion and other placement actions; special interest employment areas. Lecture, discussion and tests are used.

Credit recommendation: In the vocational certificate category, 2 semester hours in Personnel (9/75).

1. Federal Budgeting Procedure: Formulation and Presentation (E4116)
2. Federal Budgeting Procedure: Execution and Fund Control (E4118)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 1. 30 hours (10 weeks).
2. 30 hours (10 weeks).

Dates: September 1970-September 1978.

Objective: To introduce the student to the techniques of Federal budget estimation, formulation, review and presentation to higher authority, plus budget execution and control.

Instruction: Basic legal and institutional framework; concepts, procedures, and practices involved in preparation of budget estimates, justifications and supplementary materials. Preparation of budget estimate for hypothetical government agency. Systems of administrative control under the Antideficiency Act; allotments; apportionments; review of progress in relation to financial plans; related reports; other aspects of budgetary control over appropriations and funds. Problems and discussion illustrating various steps of budget execution process at bureau or small agency level, and review of basic laws, regulations, concepts, and terminology involved. (Prerequisite: familiarity with basic concepts and terminology used in fiscal, accounting, or other financial operations of the Federal government.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting or Public Administration (2/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Federal Fiscal Procedure (E4112)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970-September 1978.

Objective: To familiarize the student with federal fiscal practices.

Instruction: A survey of basic fiscal and accounting laws and rules and regulations of the Federal Government and their application to specific fiscal activities. Covers various types of fiscal operations, including use and processing of accounting and fiscal forms, disbursements and collections, and related records and reporting. *First quarter:* General background of laws and regulations; symbolization of accounts; processing of payrolls; handling of leave, retirement, tax, and bonds; administrative examination of travel and transportation payments. *Second quarter:* Continuation of study of basic laws, rules and regulations covering fiscal and accounting activities, with emphasis on procedures involving disbursements for supplies, equipment, utilities, and other items; use of imprest funds and agent cashiers; effecting adjustments for errors; handling claims and uncollectible debts; responsibilities of certifying officers. Lectures, discussion, and quizzes are used.

Credit recommendation: In the vocational certificate category, 1 semester hour in Governmental Administration for each quarter (9/75).

Federal Government Accounting (E6264)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970-September 1978.

Objective: To provide the student with a basic knowledge of governmental accounting.

Instruction: *First quarter:* Concepts and methods of fund control systems; practice with basic records-obligations control; cash disbursements; object classes; general ledgers; cost ledgers. Accounting for funding processes; appropriation; apportionments; allotments; obligations; disbursements; reimbursements; transfer appropriations; accounts-consolidated working fund advances. *Second*

quarter: Inventory and property accounting; reimbursable operations financed by revolving funds; advanced principles of accrual accounting; reporting of accrued expenditures and revenues; preparation of financial reports; accounting in decentralized operations; accrued cost accounting for areas of program responsibility—relationship to cost-based budgeting support for planning-programming-budgeting systems; year-end closing; accounting for lapsed appropriations; transfers; restorations to successor "M" accounts. Lecture, discussion, class problems, and tests are used. (Prerequisites: Principles of Accounting or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Government Accounting for each quarter (9/75).

Federal Personnel Procedure (E4114)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To enable the student to administer basic principles and procedures of federal personnel administration.

Instruction: The use of personnel forms and records; Civil Service examinations and recruitment; appointments; transfers; promotions; separations and reductions in force; suspensions and disciplinary actions; retirement; performance ratings; leave and hours of duty. Lectures, discussion and oral reports are used.

Credit recommendation: In the vocational certificate category, 2 semester hours in Personnel (9/75).

Human Relations in Administration (E6453)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To provide the student with a realistic view of the dynamic interplay of people and structures within organizations.

Instruction: Designed to develop understanding of, and insight into, interpersonal relationships in organizations, value orientations in administration, formal and informal organization, pathologies in administration, status and role, power and authority, styles of leadership, authoritarian and democratic administrators, career dynamics, psychological stress in administration, motivation, and morale.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management or Personnel Administration (2/75).

Intermediate Accounting (E6353)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To prepare the student to analyze and interpret financial statements, the end product of accounting.

Instruction: No actual keeping of accounts, but independent evaluation of existing accounts applying sound evaluation and accounting principles. Methods of correcting unsound accounting practices; alternative methods of presentation of financial statements. *First quarter:* Covers asset valuation and statement presentation of cash, temporary and long-term investments, inventories, consignments, and installment sales. *Second quarter:* Covers basic principles of acquisition, retirement, valuation and systematic write-off of plant, property, and intangible assets. Evaluation and determination of current liabilities, bonds, and sinking funds. Special areas include statement, disclosure, and presentation of pensions, leases, deferred taxes, and adjustment for price level changes. *Third quarter:* Encompasses paid-in capital (upon corporate formation and subsequent changes) together with retained earnings, dividends, and appropriation. Special areas include the preparation of statements from incomplete records, financial conditions, and break-even analysis.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Accounting for each quarter (2/75).

Intermediate Mathematical Statistics and Probability (E3404)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To introduce students to the mathematical foundation of modern statistics and its applications.

Instruction: *First quarter:* Foundations of probability theory; moments, and other charactertistics of probability distribution; characteristic functions and their applications. *Second quarter:* Limit theorems; introduction to stochastic processes; sample functions; order statistics; extreme values; theory of runs. *Third quarter:* Theory of estimation; testing hypotheses; basic theory of sampling. (Prerequisite: Calculus and Mathematical Statistics, or equivalent.)

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Statistics and Probability for each quarter (2/75).

Introduction to Public Administration (E6344)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970-September 1978.

Objective: To introduce the student to elements of public administration and to lay the foundations for further study and practice in this field.

Instruction: Management of public affairs; differences and similarities between public and private management; mechanisms and procedures for carrying out public function, relationships of branches of the U.S. Government. (Prerequisite: American National Government, or equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Public Administration (2/75).

Introductory Statistics (E3126)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 Hours (30 weeks); 3 ten-week quarters.

Dates: September 1970-September 1978.

Objective: To introduce the student to basic statistical concepts and methods with emphasis on practical applications.

Instruction: *First quarter:* Collection of data; classification and presentation in tabular and graphic form; the mean, median, and mode; measures of dispersion, skewness, and kurtosis; basic probability theory and methods of counting; discrete probability distributions. *Second quarter:* Continuous probability distributions; sample distributions and estimation of population parameters from samples; sample design including simple random, stratified, and cluster sampling; tests of significance for a single sample mean and for the difference between the means of two samples; tests of significance for a single sample proportion and for the difference between the proportions of two samples; chi-square and other nonparametric methods; the F distribution; one- and two-day analysis of variance and experimental design. *Third quarter:* Analysis of linear regression and correlation methods for two variables; analysis of curvilinear regression and correlation methods for two variables; analysis of regression and correlation methods for more than two varaiables; time series, including trend analysis, periodic analysis, and forecasting; the construction and use of index numbers. (Prerequisite: High school algebra. College algebra helpful.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour for the first quarter, 2 semester hours for the second quarter, and 2 semester hours for the third quarter in Descriptive Statistics (in any program which does not require calculus-based statistics) (2/75).

Management by Objectives (E6526)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 20 hours (10 weeks).

Dates: September 1971-September 1978.

Objective: To introduce the concepts of management by objectives and to help students learn the methods of selecting goals and objectives.

Instruction: Designed for managers at division level and above, for management analyst servicing agency at the higher levels, and for agency or bureau program and planning officers. Management by objectives as tool to assist agencies in identifying those activities not on target, or requiring corrective attention. Use of specific objectives, setting of definite targets, and measuring of achievement.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in General Management (2/75).

Management Concepts for Management Analysis (E6405) (Formerly Principles and Techniques of Management Analysis [6405])

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1966-September 1978.

Objective: To develop an understanding of a variety of concepts, principles, and perspectives of management basic to management analysis.

Instruction: Comprehensive introduction to subject of management systems, their analysis, and improvement. Emphasis on systems approach to management and on role of the management analyst in identifying and solving problems in organization and management of government agencies. Concepts, principles, and perspectives basic to the management analyst. (Prerequisite: Introduction to Public Administration, equivalent experience, or permission of the instructor.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Management Theories (E6493) (Formerly Applications of Management Theories [E6493])

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1974-September 1978.

Objective: To provide the student with knowledge of schools of management thought with emphasis on applying these theories to practical situations.

Instruction: History of management thought; the behavioral scientists (McGregor, Argyris, Herzberg, and McClelland); modern theorists and experimenters. Emphasis is on applying these theories in practical situations and conceptualizing one's own management theory.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Mathematical Statistics (E3400) (Principles of Statistical Analysis)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To introduce the student to mathematical statistical concepts and methods with emphasis on practical applications.

Instruction: *First quarter:* Probability models; probability functions; conditional probability; independence; Bayes' theorem; cumulative distribution function; discrete and continuous random variables; probability density function; expectation and moments; Chebyshev inequality; discrete distributions; continuous distributions; joint distribution functions; conditional and marginal distributions. *Second quarter:* Techniques to find distributions of functions of random variables; low of large numbers; central-limit theorem; Chi-square distribution; F-distribution; t-distribution; order statistics; maximum-likelihood estimation; properties of point estimators; sufficiency; exponential family; Cramer-Rao inequality; Rao-Blackwell theorem; Bayes' estimators. *Third quarter:* Confidence intervals; tests of hypotheses; power functions; Neyman-Pearson Lemma; loss function; generalized likelihood-ratio tests; sequential tests.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Mathematics or Statistics for each quarter (2/75).

Personnel Psychology (E7446) (Personnel Administration)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To provide an understanding of the principles of modern management with emphasis on personnel administration.

Instruction: *First quarter:* Primarily for students interested in understanding humans in work environments. Topics include meaning of work, technology and job satisfaction, work groups and informal organizations, motivating people to work, manager-group relations, special group and individual problems. *Second quarter:* For the student interested in human relations and personnel administration. Topics include role of personnel administration, organizational structures, manpower planning, recruitment and selection, training, minority employment, and performance appraisal.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in General Management or Personnel Administration for both quarters (2/75).

Position Classification (E6444)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 20 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To provide an understanding of concepts of personnel classification systems as they pertain to governmental units.

Instruction: Personnel administration; systems of job evaluation; evaluation factors; job analysis; engineering and design; techniques of writing position descriptions; conducting desk audits; Federal wage system; management of a classification system. Lectures, practicums in position description and classification, and tests are used.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Industrial Relations or Personnel (9/75).

Principles of Accounting (E6352)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 120 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To provide the student with a basic understanding of accounting terminology and concepts.

Instruction: *First quarter:* An introduction to accounting (basic principles and practices). The student is introduced to various accounting terminology and concepts such as transactions, inventories, assets. Discussion and problems. *Second quarter:* The student is introduced to various accounting systems commonly used for partnerships and corporations, such as bookkeeping, payroll, etc. *Third quarter:* Review of corporate accounting and introduction to control accounting. Also cost systems; accounting; and analysis of financial statements.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Accounting for each quarter (2/75).

Principles of Auditing (E6601)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1965–September 1978.

Objective: To enable participants to audit and evaluate accounting and management systems.

Instruction: Principles and practices involved in audits, with emphasis on governmental auditing. Consideration of purposes and types of audits; auditing concepts and standards; planning and performing audits. Review of internal controls; preparation of work papers; and report writing. Utilization of audit principles in auditing operations of agencies in Federal government. (Prerequisite: Intermediate Accounting, or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting for both quarters (2/75).

Principles of Statistical Analysis (E3380)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970–September 1978.

Objective: To introduce students to basic statistical concepts, methods, and theories, with emphasis on practical applications.

Instruction: *First quarter:* Review of algebraic and mathematical notations; foundation for basic concepts and principles of statistical analysis; descriptive statistics and their interpretation; concepts and computations of probabilities. *Second quarter:* Statistical inference from small samples; concepts of regression analysis; elementary theory of determinants and matrices; concepts and computations of variables. *Third quarter:* One-way analysis of variance; principles of design and analysis of surveys and experiments; general discussion of multivariate analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours for each quarter in Descriptive Statistics (in a program which does not require a calculus-based statistics course) (2/75).

Public Personnel Administration (E6430)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To familiarize the supervisor or administrator with personnel work in the public sector.

Instruction: Designed for the supervisor or administrator who wishes to have general familiarity with personnel work, for those in junior personnel staff positions desiring to broaden their understanding of personnel administration, and for those desiring to enter the field who need a foundation for more specialized courses in the personnel field. Primary emphasis on theory and practice of personnel administration in the Federal government. Development and significance of personnel administration in public services; recruitment, examination, and selection; classification and pay concepts; employee organizations, motivations, and training; conduct and discipline; role of Civil Service Commission, operating agencies, and their personnel officers; personnel responsibilities of supervisors; trends in personnel administration.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management, Personnel, or Public Administration (2/75).

Stochastic Processes (E3460)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1969–September 1978.

Objective: To present an integrated study of the nature and properties of stochastic processes.

Instruction: *First quarter:* Statistical study of time series and other random processes, with applications in natural, social, and biological sciences. Properties of random processes; study of counting processes; statistical operations on processes. *Second quarter:* The course analyzes means by which to study stochastic processes. Introduction to Markov processes, including random walks, birth-and-death processes, queueing theory, detection of clustering, competition and predation, and diffusion processes. *Third quarter:* Emphasis on understanding concepts and theory as necessary steps toward application. Topics are developed to coincide with students' interests, but always include heavy emphasis on the analysis of time series in both time and frequency domains. (Prerequisite: Students are expected to have a strong background in both mathematics (through calculus) and statistics (at least one year of probability and statistical theory).)

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Mathematics or Statistics for each quarter (2/75).

Successful Supervision (E6467) (Principles of Supervision)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1973–September 1978.

Objective: To provide the student with the essential principles of supervision.

Instruction: A course designed to help practicing supervisors improve both their knowledge and skills in supervising; also intended for those hoping to become supervisors. Takes up supervisory principles and considers their application to situations in both government and business. Reviews latest developments in our knowledge of motivation, participation, organizations, and communications, as applied in practice; discusses techniques aimed at improving operating efficiency. Case studies, lectures, and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in General Management (2/75).

Trigonometry (E3103)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1970–September 1978.

Objective: To provide students with a knowledge of trigonometric functions needed for calculus.

Instruction: Basic definitions and uses of trigonometric functions. Radian measure; fundamental identities and solution of trigonometric equations, logarithms and exponential equations; oblique triangles; inverse trigonometric functions; graphs of functions and inverse functions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Trigonometry (2/75).

United States Drug Enforcement Administration

The U.S. Drug Enforcement Administration (DEA) of the United States Department of Justice has overall responsibility for enforcing the provisions of the federal drug statutes. Through enforcement strategy, the gathering of drug intelligence, the use of science and technology research, close narcotics enforcement coordination with foreign countries, and the sponsorship of specialized drug training schools, the Drug Enforcement Administration brings to bear a unified effort designed to curb the world-wide illicit distribution of narcotics and dangerous drugs.

The National Training Institute (NTI) is the educational arm of the Drug Enforcement Administration. NTI conducts programs for special agent personnel and compliance investigators; directs an on-going executive, midmanagement, and supervisory program for personnel assigned to higher-level positions; and conducts in-service programs for DEA personnel in such areas as conspiracy investigations and specialized enforcement techniques.

Source of official student records: Drug Enforcement Administration, National Training Institute, Police Programs Section, 1405 Eye Street, N.W., Washington, D.C. 20537.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Drug Enforcement Officers Academy

Part 1: (Criminal Investigation)
Part 2: (Internship and Field Service Training)
Part 3: (Drug Abuse)
Part 4: (Criminal Procedures)
Part 5: (Communications)
Part 6: (Physical Education)
Part 7: (Police Administration)

Location: National Training Institute, Washington, D.C.

Length: 407 hours (10 weeks); residential. *Part 1:* 131 hours; *Part 2:* 130 hours; *Part 3:* 39 hours; *Part 4:* 37 hours; *Part 5:* 20 hours; *Part 6:* 22 hours; *Part 7:* 28 hours.

Dates: October 1970–Present.

Objective: To provide state and local enforcement officers with an in-depth knowledge of the most current techniques in narcotics and dangerous drugs enforcement, and with the expertise needed to provide leadership in combatting drug abuse.

Instruction: *Part 1:* Clandestine laboratories; informants; surveillance; undercover, drug-smuggling, and conspiracy investigations; technical investigative aids; photography; interview and interrogation; initiation and development of a case; raid planning and execution; concealment; field testing; determining drug related deaths; role of intelligence information; value of news media in investigation. Lectures, discussions, classroom demonstrations, and practical and field training exercises are used. *Part 2:* Simulated transactions and practical exercises in fact finding and intelligence gathering are used to apply principles and techniques learned in the classroom. Involves planning, use of equipment, conducting raids, arrest procedures, and surveillance. Field training is reviewed through preparation of critiques and detailed reports and use of videotaped exercises. Students are supervised by staff instructors. *Part 3:* Drug identification; characteristics of various types of drugs; effects of drugs; methadone programs; national and international drug traffic patterns; social and psychological aspects of drug abuse; drug research programs. Lecture, discussion, demonstration, and field testing exercises are used. *Part 4:* The constitutional restrictions, limitations, and safeguards relative to the conduct of searches and seizures under the Fourth Amendment; forefeitures; rules of evidence; Uniform Controlled Substances Act; rules of Federal Criminal Procedure; trial techniques; mock hearings; legal aspects of electronic surveillance; identification and interrogation; conspiracy; possession with intent to distribute to others. Lectures and discussions are used. *Part 5:* Explores several theories of communications and develops requirements for effective communication; applies these principles to the presentation of formal instruction. Oral presentation of a lesson is a course requirement. Lecture, discussion, demonstration, and class participation are used. *Part 6:* Develops the physical stamina of the student through calisthenics and endurance tests. Lectures, demonstration, and class participation are used. *Part 7:* Identifies and discusses the managerial procedures needed to operate a narcotic unit within an agency's organizational structure. Covers the managerial functions of planning, supervising, and directing. Lectures and discussion are used.

Credit recommendation: *Part 1:* In the lower division baccalaureate/associate degree category, 4 semester hours in Criminal Justice or Law Enforcement (1/76). NOTE: This section duplicates the material covered in the *Two-Week Law Enforcement Course* (see below). *Part 2:* In the lower division baccalaureate/associate degree category or in the upper-division baccalaureate category, 3 semester hours in Criminal Justice or Law Enforcement (1/76). *Part 3:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Criminal Justice or Law Enforcement (1/76). *Part 4:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Criminal Justice or Law Enforcement (1/76). *Part 5:* In the lower division baccalaureate/associate degree category, 1 semester hour in Communications (1/76). *Part 6:* In the lower division baccalaureate/associate degree category, 2 semester hours in Physical Education (1/76). *Part 7:* In the lower division baccalaureate/associate degree category, 2 semester hours in Criminal Justice or Law Enforcement (1/76).

Two-Week Law Enforcement Training School (Criminal Investigation—Drug Abuse)

Location: National Training Institute, Washington, D.C., and field locations.

Length: 77 hours (2 weeks); residential.

Dates: April 1968–Present.

Objective: To introduce state and local enforcement officers to principles of criminal investigation as it relates to drug enforcement.

Instruction: Covers four major drug-abuse areas: 1) enforcement principles and techniques, including clandestine laboratories, informants, surveillance, undercover techniques, smuggling, technical equipment, raid planning, and intelligence; 2) drug traffic patterns and drug-abuse education; 3)pharmacology, stressing drug identification and field testing; 4) legal procedures, stressing evidence, search and seizure, and trial techniques. Methodology includes lecture, discussion, laboratory, demonstrations, and practical exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Criminal Justice or Law Enforcement (1/76).

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) administers federal laws and regulations which are designed to protect and enhance the quality of the Nation's environment. USEPA has numerous training programs that are designed to increase state and local capability to assume delegated authorities and responsibilities pertaining to the operation and maintenance of pollution control and abatement programs.

Manpower Planning and Training Branch (OWPO)

This course listed below is part of the USEPA Media & Instructor Development Program. It is conducted out of the Office of Water and Hazardous Materials, and its purpose is to provide training in instructional methodology to individuals involved in environmental training programs.

Source of official student records: Media & Instructor Development Program OWPO-MOTD, United States Environmental Protection Agency, Washington, D.C. 20460.

Additional information about the course: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Instructor Technology Course-B (ITC-B)

Location: Throughout the United States.

Length: 40 hours (1 week).

Dates: April 1973–Present.

Objective: To provide present and potential instructors and supervisors of instructors with a basic knowledge of teaching methods and instructional systems technology.

Instruction: Introduces concepts and instructional strategies encompassing the following: role and responsibility of the instructor, principles of teaching and learning, behavioral objectives, classroom management, instructional evaluation, and training aides. Students prepare lesson plans and presentations which are critiqued and analyzed by instructors and course participants for immediate feedback and confirmation. Methodology includes lecture, discussion, demonstration, performance, individualized instruction and videotaped presentation.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Education (4/76).

United States Internal Revenue Service

The Internal Revenue Service (IRS) administers federal tax law and regulations. It informs the public about the requirements of the law and determines the extent of compliance and causes of non-compliance.

The IRS offers more than 400 training programs covering a wide variety of clerical, secretarial, tax law, technical, and managerial subjects. Subject matter is presented through classroom training, on-the-job training, self-study courses, correspondence courses, or a combination of these. In addition to courses directly related to IRS operations, the Service offers basic education courses to promote employee advancement, courses to help the general public comply with the law, and courses for local, state, and foreign governments to assist them in establishing effective tax administration systems. Many of the courses are designed, developed, and maintained centrally and are conducted at the national headquarters in Washington, D.C., and at nine regional training centers: Atlanta, Chicago, Cincinnati, Dallas, Los Angeles, New York, Philadelphia, San Francisco, and St. Louis.

Source of official student records: Director, Training Division, A:T:C, Internal Revenue Service, 1111 Constitution Avenue, N.W., Washington, D.C. 20224.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Revenue Agent Training, Units I and II (3125 a & b) (Fundamentals of Federal Income Tax)

Location: All Internal Revenue Service Training Centers.
Length: *Unit I:* 216 hours (27 days); residential.
Unit II: 216 hours (27 days); residential.
Dates: January 1965–January 1976.
Objective: To provide students with a basic understanding of the fundamentals of federal income taxes with primary emphasis upon individual taxpayers and unincorporated business enterprises.
Instruction: Instruction in federal income tax law and practice. Gross income; employee benefits; trade or business expenses and itemized deductions; tax credits; income averaging; minimum tax; accounting methods and periods; gains and losses from the disposition of investment and business assets; inventories; net operating losses.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (3/75).

Revenue Agent Training, Units III and IV (3125C and 3126) (Federal Income Taxation of Partnerships and Corporations)

Location: All Internal Revenue Service Centers.
Length: *Unit III:* 112 hours (14 days); residential.
Unit IV: 96 hours (12 days); residential.
Dates: *Unit III:* January 1965–January 1976.
Unit IV: January 1967–Present.
Objective: To provide the student with a basic understanding of tax law in the areas of partnership and corporations.
Instruction: Formation, operation, and liquidation of a partnership; the transfer and liquidation of a partner's interest; corporate formations, distributions, reorganizations; stock transactions and liquidations; thin capitalization; unreasonable accumulation of earnings; personal holding companies; related taxpayers.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (3/75).

United States Postal Service Training and Development Institute

The Postal Service Training and Development Institute was established in 1968 to provide needed training experiences to the 700,000 Postal Service employees. Its training and development activities include career development opportunities for Postal Service managers, supervisors, and craft employees to aid in personal and organizational development.

Courses are offered at the Institute's Management Academy, the Career Development Branch, the Technical Center, and field centers throughout the country.

Correspondence System

The Institute delivers correspondence programs to postal managers, supervisors, and other employees each year in all parts of the country. Correspondence courses provide a readily available means for employees to develop and prepare themselves for entry into more formal training in the craft, maintenance, and supervisory areas. Students applying for credit must pass a proctored final examination, which is indicated on the student's record.

Administration of Maintenance Programs—Module I (56170-00)

Location: Correspondence.
Length: Approximately 40 hours.
Dates: January 1975–Present.
Objective: To provide an understanding of the principles of managing a maintenance organization.
Instruction: Introduction to the management elements of planning, organizing, controlling, and directing. Also covers staffing, scheduling, human interaction, motivation, safety, and communications.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in General Management (2/78).

Basic Diesel Mechanics—Module I—Basic Diesel Maintenance (56160-00)

Location: Correspondence.
Length: Approximately 51 hours.
Dates: March 1975-Present.
Objective: To provide a foundation in the principles of diesel engines, electrical systems, and transmissions.
Instruction: Basic diesel principles; engine structure; fuel, air intake, exhaust, lubricating, cooling electrical, and transmission systems; clutches.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours or in the vocational certificate category, 3 semester hours in Diesel Mechanics (2/78).

Basic Diesel Mechanics—Module II—Mack-Diesel Maintenance (56161-00)

Location: Corespondence.
Length: Approximately 40 hours.
Dates: March 1975-Present.
Objective: To enable the student to describe the parts, functions, and operating principles of the Mack ENDT 673A, B and C engines.
Instruction: Covers topics related to the Mack diesel engine, including engine structure, fuel, air intake, exhaust, lubricating, cooling, and electrical systems; engine operation; engine testing and run-in; troubleshooting and failure analysis; shop manual organization.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour or in the vocational certificate category, 2 semester hours in Diesel Mechanics (2/78).

Basic Electricity (56150-00)

Location: Correspondence.
Length: Approximately 150 hours.
Dates: January 1972-Present.
Objective: To enable students to analyze and solve problems associated with AC and DC circuitry.
Instruction: Fundamental principles of electricity, including the behavior of AC and DC electrical circuits. Use of formulas and equations essential to an understanding of electricity; fundamentals of magnetism, resistance, inductance, and capacitance. No laboratory experiences included.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electricity (2/78).

Basic Pneumatics and Hydraulics (56147-00)

Location: Correspondence.
Length: Approximately 80 hours.
Dates: October 1972-Present.
Objective: To develop a basic theoretical understanding of hydraulic and pneumatic systems.
Instruction: In logical sequence, the fundamentals of hydraulics and pneumatics and the operation of fluid power components. Topics include physics of fluids; basic systems and circuit diagrams; control and measurement of flow; component equipment functions.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Mechanical Technology (2/78).

Customer Service Representative (42151-00)

Location: Correspondence.
Length: Approximately 40 hours.
Dates: February 1978-Present.
Objective: To provide an overview of knowledge, skills, and techniques of effective salesmanship/sales management, and to enable students to design customized user service.
Instruction: Role of the customer service representative; product knowledge and customized service programs; sales processes, including pre-call planning and use of visual sales aids; time and territory management; customer relations and psychology of selling. Coverage is same as Customer Service Representation MAS (10068-10) but does not provide classroom application of principles.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Sales Management or Salesmanship (2/78).

Digital Electronics (56148-00)

Location: Correspondence.
Length Approximately 30 hours.
Dates: February 1976-Present.
Objective: To introduce the principles of digital electronics.
Instruction: Basics of numbering systems, including methods of conversions between systems; various coding schemes; circuit introduction to Boolean algebra; elements of digital electronics.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Digital Electronics (2/78).

Introduction to Basic Mathematics and Electricity (56123-00)

Location: Correpondence.
Length: Approximately 50 hours.
Dates: January 1972-Present.
Objective: To provide an understanding of the fundamentals of math necessary in the study of electricity and to introduce the principles of electricity.
Instruction: A refresher in basic arithmetic operations such as addition, subtraction, multiplication, and division. Positive and negative numbers; fractions; square roots; powers of ten. Also includes an introduction to electrical units and prefixes, elementary algebraic equations, formulas, rectangular coordinates, trigonometric relations, and vectors.
Credit recommendation: In the vocational certificate category, 3 semester hours in Basic Mathematics and Electricity (2/78).

Power Transistors (56143-00)

Location: Correspondence.
Length: Approximately 20 hours.
Dates: January 1972-Present.
Objective: To develop awareness of thermal, frequency, and size problems associated with power transistors.
Instruction: Considers compromises that enable both low and high frequency power transistors to operate at high temperatures and currents. Includes regulator circuits and overload protection.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electronics (2/78).

Report Writing For Postal Managers (33150-00)

Location: Correspondence.
Length: Approximately 40 hours.
Dates: February 1978-Present.
Objective: To provide an understanding of the mechanics of report writing.
Instruction: Review of grammar; spelling; word mechanics; usage; editing and proofreading; planning, preparation, and evaluation of written reports.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Communications (2/78).

Secretary to the Postal Executive (33130-00)

Location: Correspondence.
Length: Approximately 40 hours.
Dates: February 1978-Present.
Objective: To provide an overview of the principles of management and business communications.
Instruction: Principles and applications of effective communication, with emphasis on making the secretary an effective office manager.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Secretarial Science (2/78).

Transistors and Transistor Applications (56142-00)

Location: Correspondence.
Length: Approximately 75 hours.
Dates: January 1972-Present.
Objective: To develop a theoretical understanding of transistors and their use in common electronic circuits.
Instruction: An in-depth study of solid state theory, transistor amplifiers, load line analysis, equivalent circuit analysis, feedback, tuned circuits, multivibrators, and modulation.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electronics (2/78).

Vehicle Accident Investigation (51159-00)

Location: Correspondence.
Length: Approximately 40 hours.
Dates: February 1978-Present.
Objective: To develop skills in reporting, investigating, and analyzing vehicle accidents.
Instruction: Data collecting; interviewing; calculations; highway and human factors; road and tire evidence; vehicular evidence; forms; analysis of accidents.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Industrial or Public Safety (2/78).

Inspection Service

The courses listed below are part of the Postal Inspection Training Program of the Career Development Branch, located in Bethesda, Maryland. The Program's purpose is to train law enforcement officers of the U.S. Postal Service.
Source of official student records: Office of the Registrar, Postal Service Training and Development Institute, 7900 Wisconsin Avenue, Bethesda, Maryland 20014.
Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Postal Inspector Basic Training (12251)

Part 1: (Audit Procedures I)
Part 2: (Audit Procedures II)
Part 3: (Criminal Law I)
Part 4: (Basic Criminal Investigation)
Part 5: (Advanced Criminal Investigation)
Part 6: (Administrative Practice)
Part 7: (Personal Defense)

Location: 8120 Woodmont Avenue, Bethesda, MD.

Length: 404 hours (16 weeks); residential. Part 1: 50 hours; Part 2: 53 hours; Part 3: 45 hours; Part 4: 69 hours; Part 5: 71 hours; Part 6: 64 hours; Part 7: 52 hours.

Dates: October 1972–Present.

Objective: To train postal inspectors in all aspects of Inspection Service work and to prepare them to assume the responsibilities of their first duty assignments.

Instruction: *Part 1:* A study of types of funds and accounts, types of audits and financial investigations, and audit standards. *Part 2:* A study of audit writing and working papers, economic analysis, service, operational, and financial audits. A practical exercise is included. *Part 3:* Presents the theory, evolution, and current status of presenting evidence in criminal cases; the laws of arrest, search and seizure, and entrapment; statements and affidavits; problems of legality in presenting various kinds of physical evidence. *Part 4:* Includes principles of investigation, investigative techniques, legal practices and procedures, security operations, and preparation of case reports. *Part 5:* Builds on the instructional content of the Basic Criminal Investigation block. Stress is on use of advanced techniques and advanced technology, nonroutine methods, preventive analysis, and control operations. *Part 6:* Elements include general administrative principles, report writing, case study approaches, technical, analytical, and managerial skills, and policy development. *Part 7:* Theory and practice of selected defense skills and their application to cope successfully with those situations in which the student encounters personal attack.

Credit recommendation: *Part 1:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Auditing, Business Administration, or Public Administration (2/75). *Part 2:* In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Auditing, Business Administration, or Public Administration (2/75). *Part 3:* In the graduate degree category, 3 semester hours in Criminal Law (2/75). *Part 4:* In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (2/75). *Part 5:* In the upper division baccalaureate category, 3 semester hours in Criminal Justice (2/75). *Part 6:* In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (2/75). *Part 7:* In the lower division baccalaureate/associate degree category, 1 semester hour in Physical Education (2/75). NOTE: All participants complete Parts 1, 3, 4, 6, and 7. Trainees specializing in auditing complete Part 2 (Audit Procedures II), and those specializing in criminal investigation complete Part 5 (Advanced Criminal Investigation).

Security Force Training (12252) (Introduction to Law Enforcement)

Location: 8120 Woodmont Avenue, Bethesda, MD.

Length: 48 hours (3 weeks); residential.

Dates: October 1972–Present.

Objective: To develop the skills, knowledge, and attitudes required to perform as security aides, technicians, and supervisors.

Instruction: Covers various aspects of law and legal procedures applicable to the security aspects of law enforcement. Emphasis is given to principles of security such as building control, bomb threats, building search, narcotics and dangerous drugs, arson and fire prevention, emergency medical aid, defensive tactics, and crowds, mobs, and social disorders. Program includes firearms training, a study of individual behavior and human relations, and basics of improved oral and written communications. Lectures, discussions, practical exercises, and audio-visual equipment are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Law Enforcement (2/75).

Management Academy

The courses listed below are conducted at the Management Academy's main facility in Bethesda, Maryland, or at five field centers: Los Angeles, California; Chicago, Illinois; New York City; Memphis, Tennessee; and Philadelphia, Pennsylvania.

Source of official student records: Office of the Registrar, Postal Service Training and Development Institute, 7900 Wisconsin Avenue, Bethesda, Maryland 20014.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Fundamentals of Management (11355-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 4–6 hours of preparatory independent study.

Dates: May 1972–January 1976.

Objective: To provide the new first-line manager with an understanding of the responsibilities of the position and the expectations that an organization has of him or her.

Instruction: The course covers basic management principles to be utilized by the first-line manager in achieving maximum production and commitment from the subordinate work group: attitudes, communication, people in

groups, conflict, work planning and supervision, motivation, and problem solving. Students explore and define several specific problem areas: identification with the management team, development of a more effective work group, the effects of different supervisory styles, effective communication with employees, and the capabilities of the first-line manager in providing for worker satisfaction and productivity. Lectures, discussion and small group work are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Fundamentals of Management Information Systems (32260)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 40 hours (5 days); residential.

Dates: October 1974–January 1976

Objective: To familiarize the student with the concepts of management information systems (MIS) and to provide experience in the use of MIS techniques.

Instruction: Relates MIS concepts to the following information and planning elements: classifying data needs of management MIS requirements, determining and specifying MIS objectives, capturing the data element/information flow, matrix techniques for MIS analysis, planning and controlling postal MISs, design features of MISs, and MIS implementation and follow-up. These elements are used in solving class-identified problems.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration, Management, or Public Administration (11/74).

Methods-Time Measurement—Basic (52255-00)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks); residential.

Dates: April 1971–Present.

Objective: To teach managers and other postal employees to analyze the motions involved in a work task for a production facility.

Instruction: Basic motions and their variables met in human work. Participants learn and demonstrate how to examine postal operations and make a satisfactory MTM analysis. Includes a brief background in Industrial Engineering and the role of MTM. Work performance, motion economy, work standards, production control, and application practices are also treated.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Facilities Planning and Management, or Management (12/77). Note: The coverage of this course overlaps to a large extent with Methods-Time Measurement—Review (52256-00). Credit should not be granted for both courses.

Methods-Time Measurement—Review (52256-00)

Location: Management Academy, Bethesda, MD.

Length: 80 hours (2 weeks); residential.

Dates: April 1971–Present.

Objective: To provide an intensive review for experiences managers and other postal employees of the skills and knowledge related to the analysis of motions included in a work task in a production facility. Participants should have held a methods-time management practicioner's card.

Instruction: Basic motions and their variables met in human work. Participants learn and demonstrate how to examine postal operations and make a satisfactory MTM analysis. Includes a brief background in Industrial Engineering and the role of MTM. Work performance, motion economy, work standards, production control, and application practices are also treated.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Facilities Planning and Management, or Management (12/77). NOTE: The coverage of this course overlaps to a large extent with Methods-Time Measurement—Basic (52255-00). Credit should not be granted for both courses.

Modern Management Practices (11451-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 20 hours of preparatory independent study.

Dates: December 1969–January 1976.

Objective: To provide an understanding of the interrelationships of communication and human behavior with planning, decision making, and problem solving.

Instruction: The course examines two analytical models and several management instruments for analyzing organizations, setting objectives, and developing criteria for decision making. Specific aspects covered include use of the decision criteria chart to evaluate alternative problem-solving strategies, use of means-ends analysis to determine meaningful objectives, effects of various communication patterns and planning approaches on employees and the organization, the consideration of the total system in decision making and risk analysis. Introduces evaluation criteria needed to arrive at the appropriate communication pattern and planning approach that will mobilize, develop, and use the creative talents of people within the work unit.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Modern Management Practices Applied (11356-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 24 hours (3 days); residential; 15 hours of preparatory independent study.

Dates: July 1971–January 1976

Objective: To enable students to apply a systems-oriented planning and decision-making model to analyzing problems and implementing change within an organization.

Instruction: The course applies the systematic problem-solving principles and techniques developed in Modern Management Practices (11451-00) to organizational problems identified by the participants. Task teams work on improvement in the areas of personnel, facilities and equipment, methods and procedures, standards, or costs. Implementation strategies are developed for the solutions or improvements selected. Small groups analyze these problems and compare solutions.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Operations Research Management (11272-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 10–15 hours of preparatory independent study.

Dates: January 1972–January 1976.

Objective: To introduce the student to commonly used operations research techniques.

Instruction: Course covers operations research techniques, including investment models, linear programming, the transportation method, simulation, interactive man-computer systems, computerized data bases, and decision making under risk and uncertainty. Problems are analyzed to show how managers might use operations research techniques. Participants also study measurement problems, forecasting, and the reconciliation of multiple objectives.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Postal Facilities Activation (53000-00)

Location: Management Academy, Bethesda, MD; field centers.

Length: 40 hours (1 week).

Dates: January 1974–Present.

Objective: To provide high level managers and facilities planners with the knowledge and skills to plan and manage the activation of large new processing facilities.

Instruction: Activities and techniques necessary to plan and utilize resources in moving from an existing to a new facility. Includes standards for the use of building and equipment, site control analysis, and procedures designed to insure an orderly transition.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Business Administration or Management (12/77).

Postal Facilities Planning (53273-00)

Location: Management Academy, Bethdsda, MD; field centers.

Length: 80 hours (2 weeks).

Dates: June 1973–Present

Objective: To provide participants with the knowledge and skills to apply modern management methods during the initial planning phase for new postal facilities.

Instruction: Activities involved in the initial stages of requiring new or modified postal facilities and the activation of large new facilities. Procedures are developed for devising facilities-use concepts, investment strategies, and justifying priorities for capital expenditures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Management (12/77).

Purchasing and Contracting I (34451-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 40 hours (5 days); residential; 20–30 hours of preparatory independent study.

Dates: March 1972–January 1976.

Objective: To provide knowledge and understanding of the U.S. Postal Service procurement policies and procedures.

Instruction: The U.S. Postal Service organization, policies, regulations, and procedures relating to basic contracting principles; general considerations; formal advertising; negotiation; informal purchases; contract negotiation administration and supervision of procurement personnel.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration, Management, or Public Administration (11/74).

Purchasing and Contracting II (34252-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 20–30 hours of preparatory independent study.

Dates: August 1972–January 1976.

Objective: To provide understanding of purchasing and contracting regulations, policies, and procedures, and to teach the participants to supervise procurement.

Instruction: Procurement procedures and policies; general contracting considerations; formal advertising; negotiation; informal purchases and contract administration; ordering, receiving, storage, inventory control, and the issue of supplies.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Quantitative Management (11271-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 10–12 hours of preparatory independent study.

Dates: January 1972–January 1976.

Objective: To provide a working knowledge of several widely used techniques in quantitative managerial decision making.

Instruction: Identification, definition, and quantitative solution of problem types frequently encountered by managers: assignment, sequencing, queuing, inventory, allocation, distribution, and routing. A classification scheme is used to help managers organize and classify available data. Solution techniques are presented in a way that stresses the relative merits and requirements of each.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Rational Decision Making (11253-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 10 hours of preparatory independent study.

Dates: May 1973–January 1976.

Objective: To teach managers the principles of problem solving.

Instruction: The course is constructed around a synthesis model that shows managers how to specify the dimensions of a problem, identify and test possible causes, and develop solutions. Two approaches are offered for solving any problem. Four general areas are highlighted: problem analysis, decision analysis, consequence analysis, and situation diagnosis. Students are taught how to use various techniques, including systems analysis, PERT systems, problem-solving grids, and decision trees.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Management Academy—Management Action Series

The courses listed below compose the Management Action Series (MAS), a three-phase system of management development programs for all newly appointed U.S. Postal Service managerial personnel.

During Phase I, the newly appointed manager meets with his or her immediate manager to discuss job performance requirements, to identify performance deficiency areas, and to decide on objectives or problems to address during the second phase, a three-week resident program.

Phase II is conducted at the Management Academy in Bethesda, MD, or in one of the five field centers (New York, Los Angeles, Memphis, Chicago, and Philadelphia). The resident training simulates the daily work environment. The participants work in small groups, and learn and apply management principles in the analysis of real work situations that require direct management action. The method is essentially experiential: the students solve problems requiring them to integrate management and functional principles presented in the course. The tenth day of each course is devoted to an assessment of the students' learning of the previous nine days, consisting of self evaluation, peer evaluation, and instructor evaluation. At the end of the three-week resident phase, the instructor evaluates each student on ten primary functional or managerial skills.

The third phase of the program occurs over the six month period following the participant's return to the home office. During this phase, the participant implements and evaluates the action plan developed in Phase II. The participant is evaluated according to the same criteria as during the resident phase. After successful completion has been certified by both the course instructor and the participant's manager, a certificate is issued.

Source of official student records: Office of the Registrar, Postal Service Training and Development Institute, 7900 Wisconsin Avenue, Bethesda, Maryland 20014.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Associate Office Management MAS (10050-40)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks); residential.

Dates: October 1975–Present.

Objective: To provide managers of post offices with knowledge and skills to perform middle management functions pertinent to a postal facility and its delivery services.

Instruction: Covers all activities normally conducted at a postal facility, including management of operative aspects of delivery functions and postal facility services; financial controls; sales operations and customer relations; employees and labor relations.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (7/77).

Building Equipment Maintenance Supervisors MAS (10017-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: *Version 1:* February 1977-December 1977.
Version 2: January 1978-Present.
Objective: To provide first-line building maintenance supervisors with supervisory skills.
Instruction: *Version 1:* Supervision of the maintenance of building facilities, including determination of manpower requirements, scheduling of maintenance work, and custodial functions for small facilities. *Version 2:* Principles of staffing, organizing, planning, controlling communicating, and decision making. Emphasis on special topics such as managerial responsibilities, employee motivation, work flow analysis, equal employment opportunity requirements, performance standards and analysis, and employee/labor relations. Includes special requirements of a supervisor of building equipment maintenance supervisors.
Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 2 semester hours in Institutional Maintenance Management (7/77). *Version 2:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management or Personnel Administration (12/77).

Building Services Maintenance Supervisors MAS (10018-10) (Executive Housekeeping)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: *Version 1:* April 1977-December 1977.
Version 2: January 1978-Present.
Objective: To provide first-line custodial supervisors/executive housekeepers with supervisory skills.
Instruction: *Version 1:* Supervision of a medium-sized group of custodial employees; determination of manpower requirements and scheduling for daily cleaning and project cleaning work; performance of housekeeping inspections and presentation of housekeeping clinics. *Version 2:* Principles of staffing, organizing, planning, controlling, communicating, and decision making. Emphasis is on special topics, such as managerial responsibilities, employee motivation, work-flow analysis, equal employment opportunity requirements, performance standards and analysis, employee/labor relations. Added emphasis on cleaning standards, building maintenance, materials acquisition, and storage.
Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 2 semester hours in Institutional Maintenance Management (7/77). *Version 2:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management or Personnel Administration (12/77).

Bulk Mail Center Mail Processing Managers MAS (10029-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: *Version 1:* August 1976-December 1977.
Version 2: January 1978-Present.
Objective: *Version 1:* To provide bulk mail processing supervisors and managers with an understanding of applied industrial management. *Version 2:* To introduce principles of management and supervision to incumbent and newly appointed bulk-mail center supervisors and managers.
Instruction: *Version 1:* Functional areas of mail processing and logistics, with emphasis on system flow and control. Plant, mechanized, and manual operations; acceptance procedures; action planning. Essential tools of personnel management are covered, including leave control, EEO, training, effective communications, and labor agreements. *Version 2:* Introduces basic management principles and supervision of employees in functional areas of Mail Processing and Logistics. Modules include Dock and Yard Operations, Mechanized Operations, Manual Operations Acceptance Procedures, and Action Planning. Supervisors are given management guidelines as essential tools in the development and supervision of a motivated work force.
Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 2 semester hours in Industrial Management or Production Management;, or in the upper division baccalaureate category, 1 semester hour in Industrial Management or Production Management (7/77). *Version 2:* In the lower division baccalaureate/associate degree category, 3 semester hours in Management or Supervision (12/77).

Customer Service Representative MAS (10068-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: September 1976-Present.
Objective: To provide customer service representatives with knowledge, skills, and techniques of effective salesmanship/sales management, and to enable them to design customized user services.
Instruction: Role of the customer service representative; product knowledge and customized service programs; sales processes, including pre-call planning and use of visual sales aids; time and territory management; customer relations and psychology of selling.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Marketing; or in the lower division baccalaureate/associate degree category, 3 semester hours in Salesmanship or Sales Management (7/77).

Delivery Service Managers MAS (10050-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: September 1976–Present.
Objective: To provide upper mid-level delivery service managers with the expertise, knowledge, and skills to conduct operational performance and managerial data analyses of postal facilities within their jurisdiction.
Instruction: Covers topics dealing with operating data analysis, performance review, and managerial controlling.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration (7/77).

Delivery Service Supervisors MAS (10010-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: July 1975–Present.
Objective: To provide first-line delivery service supervisors with the knowledge and skills to manage postal delivery services.
Instruction: Covers all activities normally conducted at a postal facility, including operating controls and general facility management; financial controls; supervision of human resources; scheduling and staffing; labor relations.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (7/77).

Employee Relations Management MAS (10070-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks).
Dates: January 1978–Present.
Objective: To develop participant's abilities to deal with a variety of employee relations issues.
Instruction: Duties and responsibilities associated with the administration of employee relations activities. Staffing; recruiting; hiring; compensation; employee benefits; management information; manpower development; records and files maintenance; EEO; planning; budget. Case incidents are widely used in classroom discussion.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Industrial Relations, Personnel Administration, or Supervision (5/78).

Labor Relations Management MAS (10071-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks).
Dates: January 1978–Present.
Objective: To provide entry-level labor relations personnel with an understanding of principles and practices of labor relations and collective bargaining.
Instruction: Labor relations policies, procedures, and regulations; collective bargaining agreements and memoranda of understanding; disciplinary procedures; grievance and arbitration and procedures; labor history; legal aspects; contemporary problems of the labor movement.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Collective Bargaining, Industrial Relations, or Personnel Administration (5/78).

Mail Processing Equipment Maintenance Supervisors MAS (10016-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: *Version 1:* June 1976–December 1977.
Version 2: January 1978–Present.
Objective: To provide first-line maintenance supervisors with the fundamentals of supervisory skills.
Instruction: *Version 1:* Supervision of maintenance of mail transport, mail preparation, and mail sorting equipment within a postal facility. Includes determination of manpower requirements and scheduling of maintenance work. *Version 2:* Principles of staffing, organizing, planning controlling, communicating, and decision making. Emphasis is on special topics, such as managerial responsibilities, employee motivation, work-flow analysis, equal employment opportunity requirements, performance standards and analysis, and employee labor relations. Includes special requirements of a mail processing equipment maintainence supervisor.
Credit recommendation: *Version 1:* In the lower division baccalaureate/associate degree category, 1 semester hour in Industrial Management (7/77). *Version 2:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management or Personnel Administration (12/77).

1. Mail Processing Managers MAS (10040-10)
2. Mail Processing Managers MAS (10040-20)

Location: 1. Management Academy, Bethesda, MD.
2. Management Academy, Bethesda, MD; field centers.
Length: 120 hours (3 weeks); residential.
Dates: 1. January 1976–Present.
2. June 1977–Present.
Objective: To provide the participants with the knowledge and skills required to assume mid-level management positions.
Instruction: Emphasizes personnel management including manpower planning; staffing; equal employment op-

portunity; safety management; labor relations. Also covers management by objectives and results; management information systems; planning, scheduling, and controlling; quality control.

Credit recommendation: *Course 1 or 2:* In the upper division baccalaureate category, 3 semester hours in Management or Personnel Administration (7/77).

1. Mail Processing Supervisors MAS (10001-10)
2. Mail Processing Supervisors MAS (10001-20)

Location: 1. Management Academy, Bethesda, MD.
2. Management Academy, Bethesda, MD; field centers.

Length: 120 hours (3 weeks); residential.

Dates: 1. July 1975–Present.
2. January 1976–Present.

Objective: To provide first-line supervisors with basic managerial knowledge and skills.

Instruction: Management information systems; staffing and scheduling; facilities utilization; quality control; controlling; personnel management and labor relations; action and contingency planning; safety management.

Credit recommendation: *Course 1 or 2:* In the lower division baccalaureate/associate degree category, 3 semester hours in Management (7/77).

Mailing Requirements Managers MAS (10063-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks); residential.

Dates: January 1978-Present.

Objective: To provide specialized knowledge and skills in the customer service area to newly promoted mailing requirement managers.

Instruction: Covers all areas of rates and classification, including mail preparation requirements, second-class permits, fees, and special services, as well as employee labor relations. Emphasis is on customer services.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Customer Services (12/77).

Management Sectional Center MAS (10092-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks); residential.

Dates: *Version 1:* January 1977–September 1977.
Version 2: October 1977–Present.

Objective: *Version 1:* To provide an overview of postal system operations and management to highly responsible postal managers. *Version 2:* To develop the planning, organizing, monitoring, controlling, and evaluating skills of experienced managers, using the team approach.

Instruction: *Version 1:* The participants confront a range of typical management sectional center operations, organizational and management problems encompassing system action planning, cost-benefit analysis, and the interfunctional impact of problem solving. This seminar integrates a broad range of topics requiring a knowledge of applied management skills. *Version 2:* Uses a systematic problem-solving and decision-making approach which explicitly requires the use of cost-benefit analysis. Also includes management team building, developing individual management skills, and strengthening functional skills in planning, organizing, monitoring, controlling, and evaluating.

Credit recommendation: *Version 1:* In the upper division baccalaureate category or in the graduate degree category, 1 semester hour in Public Administration (7/77). *Version 2:* In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (12/77).

PEDC Managers MAS (10072-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks).

Dates: January 1978–Present.

Objective: To provide managers with an understanding of the administrative functions of training and development activities.

Instruction: Functional activities associated with the efficient and effective operation of PEDC's (employee training and development centers); identification of responsibilities; analysis of organization and management problems; establishment of material and equipment controls; action plans; monitoring system; feeder budget.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Supervision (5/78).

Plant Maintenance Managers MAS (10056-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks).

Dates: January 1978–Present.

Objective: To provide middle managers with the knowledge and skills required to manage plant maintenance within postal facilities.

Instruction: Basic management skills including principles of planning, organizing, controlling, staffing, and communicating as related to management of the physical plant of postal facilities. Includes technical skill requirements for plant maintenance management such as employee scheduling, mail processing equipment maintenance and repair, OSHA safety requirements, work force and time requirements, and computerized information systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (5/78).

Postal System Examiners MAS (10060-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: June 1976–Present.
Objective: To provide postal system examiners with the management skills necessary to complete financial examinations of postal facilities.
Instruction: Activities associated with financial examination of postal installations including evaluation of and reporting on accounting systems, trust fund accounts, and management information systems; essential functions of management, including planning, organization, communication, supervision, and problem solving.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Basic Management Procedures, Business Administration, or Supervision (12/77).

1. Postmasters MAS (Level 22-24) (10090-30)
2. Postmasters MAS (Level 20) (10090-40)
3. Postmasters MAS (Level 18) (10090-50)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: July 1976–Present.
Objective: To provide postmasters with the management skills related to their areas of assigned responsibility.
Instruction: *Courses 1, 2, and 3:* Operating data review and analysis; planning, organizing, and general supervision of associated offices; employee relations and personnel administration; monitoring financial operations; integrating all planning and budgeting functions; community liaison and public relations. *Courses 2 and 3:* These courses are designed for postmasters with smaller volume of operations; consequently, more emphasis is placed on operational rather than managerial functions.
Credit recommendation: *Courses 1, 2, or 3:* In the upper division baccalaureate category, 3 semester hours in Business Administration or Public Administration (7/77).

Retail Sales and Services Management MAS (10074–10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: September 1977-Present.
Objective: To provide the newly promoted Retail Sales and Services manager with knowledge and skills required in the retailing function.
Instruction: Responsibilities of the manager of Retail Sales and Services, for the effective creation, implementation, and administration of all Retail Sales Programs. Participants plan budgets and analyze available management information systems to review and control the plan, schedule and staff retail outlets, set sales goals, assign sales territories, and effectively motivate the sales force.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Retail Management or Sales Management Supervision (12/77).

Safety MAS (10069-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks).
Dates: January 1978–Present.
Objective: To provide participants with an understanding of the concepts of management associated with the administration of the Occupational Safety and Health Program.
Instruction: Safety training and education; adminstration; organization and promotion; accident investigation, analysis, and reporting; safety engineering and standards, fire prevention; medical programs; vehicle safety and safety inspections.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Industrial or Public Safety Management (5/78).

Station and Branch Managers MAS (10051-10)

Location: Management Academy, Bethesda, MD.
Length: 120 hours (3 weeks); residential.
Dates: May 1976–Present.
Objective: To provide mid-level station or branch managers with the expertise, knowledge, and skills to manage a postal facility.
Instruction: This course covers the managerial responsibilities for the operation of a postal facility, including general management of all delivery functions, facilities, and services; finance and administration; marketing services, including sales and customer relations; employee and labor relations.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (7/77).

Vehicle Accident Investigation Management MAS (10011-10)

Location: Technical Center, Norman, OK.
Length: 120 hours (3 weeks); residential.
Dates: June 1977–Present.

Objective: To develop the investigative and reporting skill of newly assigned claims officers.

Instruction: Covers all aspects of accident investigation for both vehicle and non-vehicle accidents; preparation of accident reports; knowledge of the Federal Tort Claims Act; technical investigation skills; preparation of exhibits and data.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Industrial or Public Safety (12/77).

Vehicle Maintenance Management MAS (10059-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks).

Dates: March 1978–Present.

Objective: To provide the participant with an understanding of a vehicle maintenance facility's operating policies and procedures and to develop skills in the application of these procedures to daily operations.

Instruction: Topics related to the operation of a vehicle maintenance facility, emphasizing the efficient application of management techniques to manpower control; problem identification and solving; stockroom control; fleet maintenance record and report use; shop safety; fleet-oriented programs.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Automotive Service Management, Automotive Technology, or Transportation Technology (5/78). NOTE: Credit should not be granted for both this course and Vehicle Maintenance Facility (VMF) Control (55634-00).

Window Services Managers MAS (10073-10)

Location: Management Academy, Bethesda, MD.

Length: 120 hours (3 weeks); residential.

Dates: October 1977–Present.

Objective: To outline key findings of the behavioral and management sciences as they relate to the management function.

Instruction: Management functions including planning, organizing, directing, controlling, and evaluating; development of procedures for financial and inventory accounting systems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management, Public Administration, or Supervision (12/77).

The Postal Employee Development Centers

The PEDC network, begun in 1974, consists of approximately 200 Postal Development Centers (PEDCs) designed to provide training to a large population of geographically dispersed postal employees. The PEDCs also offer training consultant and career guidance services to all Postal Service employees.

The courses listed below are self-instructional. Students applying for credit must pass a proctored final examination, which is indicated on the student's record.

Accounting I (31591-00)

Location: Self-instruction; PEDC Centers.

Length: 60 hours programmed instruction and approximately 120 hours outside problem solving.

Dates: November 1976–Present.

Objective: To provide an understanding of basic accounting theory and practice, including the preparation of financial statements.

Instruction: Fundamentals of accounting theory, including use of journals and ledgers, preparation of financial statements, and accounting for job order and process cost systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (2/78).

Accounting II (31592-00)

Location: Self-instruction; PEDC Centers.

Length: 60 hours programmed instruction and approximately 120 hours outside problem solving.

Dates: November 1976–Present.

Objective: To provide a further understanding of accounting principles and practices, including corporate accounting.

Instruction: A continuation of Accounting I, including notes and interest, voucher system, partnership equity, budgeting, income tax, and corporate accounting.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (2/78).

Basic Industrial Electricity (56540-00)

Location: Self-instruction; PEDC Centers.

Length: Approximately 40 hours.

Dates: December 1975–Present.

Objective: To provide introductory training in the basic theory of operation of fundamental industrial electrical circuitry.

Instruction: Basic principles of electricity and magnetism; series and parallel circuits; secondary cells, meters; transistors; motors and motor control; circuit protective devices. Self-instruction is augmented with an electrical training device.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Industrial Arts, or in the vocational certificate category, 1 semester hour lecture and 1 semester hour laboratory in Basic Electricity (2/78).

Bulk Conveyor Systems (55501-00)

Location: Self-instruction; PEDC Centers.
Length: Approximately 40 hours.
Dates: October 1974–Present.
Objective: To give students a basic knowledge of the fundamentals and operating principles of bulk conveyors necessary for proper maintenance.
Instruction: Bulk conveyor maintenance functions; safety considerations; use of tools; conveyor components; belt adjustments and repairs; bearing installation; maintenance of motors and drive parts; electrical principles; motor control circuits.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanics, or in the vocational certificate category, 2 semester hours in Electromechanics (2/78).

Digital Electronics I (56548-00)

Location: Self-instruction; PEDC Centers.
Length: Approximately 30 hours.
Dates: February 1974–Present.
Objective: To introduce the principles of digital electronics.
Instruction: Basics of numbering systems, including methods of conversion between systems; various coding schemes; circuit introduction to Boolean algebra; elements of digital electronics.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Digital Electronics (2/78).

Digital Electronics II (56549-00)

Location: Self-instruction; PEDC Centers.
Length: Approximately 60 hours.
Dates: January 1974–Present.
Objective: To provide a study of logic circuits through the application of logic principles.
Instruction: Principles of logic functions; gates; encoding, decoding, and basic flip-flop circuits.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Digital Electronics (2/78).

Electronics I (56517-00)

Location: Self-instruction; PEDC Centers.
Length: Approximately 46 hours.
Dates: April 1977–Present.
Objective: To provide a basic understanding of electrical and electronic circuits, measuring instruments and components, and to develop basic skills in laboratory measurement techniques.
Instruction: Elements and concepts of electricity and electronics, including types and measurement of electrical components and values. Inductance, capacitance, and resistance circuitry; components and component value determination; electrical measurement utilizing the volt-ohm meter, and the oscilloscope.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in Industrial Arts, or in the vocational certificate category, 3 semester hours in Basic Electricity/Electronics (2/78).

Electronics II (56518-00)

Location: Self-instruction; PEDC Centers.
Length: Approximately 60 hours.
Dates: January 1978–Present.
Objective: To provide the basic knowledge and skills required to troubleshoot simple electronic equipment and to use necessary test equipment.
Instruction: Electronic operation and troubleshooting analysis of electronic equipment at the component level, integrated circuit level, and the card level.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour lecture and 2 semester hours laboratory in Electronics (2/78).

1. Introduction to Postal Management (11561-00)
2. Introduction to Postal Management (11961-00)
3. Introduction to Postal Supervision (11161-00)

Location: 1. Self-instruction; PEDC Centers.
2. PEDC Centers; Field Centers.
3. Correspondence.
Length: 1. Approximately 40 hours.
2. 40 hours (1 week); residential.
3. Approximately 40 hours.
Dates: February 1978–Present.
Objective: To introduce supervisory personnel to the fundamentals of supervision.

Instruction: The role of the supervisor; tools of a manager; personnel management; applied principles of management; general management functions.

Credit recommendation: *Courses 1, 2, or 3:* In the lower division baccalaureate/associate degree category, 1 semester hour in Business Adminstration (2/78).

Technical Center

The courses listed below are offered by the Institute's Technical Center in Norman, Oklahoma, where more than 60,000 Postal Service employees have completed resident courses in a broad variety of technical disciplines since 1969.

Source of official student records: Office of the Registrar, Technical Center, Postal Service Training and Development Institute, Box 1400, Norman, Oklahoma 73070.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Advanced Digital Applications (55698-00) (Digital Electronics)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory per week.

Dates: September 1975–Present.

Objective: To provide students with the basic concepts of digital circuit analysis, troubleshooting techniques, and the knowledge to prepare them to take courses associated with digital equipment maintenance at the electronic technical level.

Instruction: Applications and circuit configurations of registers, counters, multiplexers, converters (A/D, D/A), delay lines, and multivibrators. Includes instruction on the use of logic probes and oscilloscopes to troubleshoot IC circuits. The concepts of core and solid state memory circuits are an integral part of the program.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Digital Electronics (9/77).

Air Brakes (FMVSS121) (55619-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 16 hours lecture/discussion and 24 hours laboratory/workshop per week.

Dates: October 1975–Present.

Objective: To develop skills and knowledge in troubleshooting and maintenance of basic air brakes systems and anti-skid systems in conformance with Federal Motor Vehicle Service (DOT) Standard #121 for fleet vehicles.

Instruction: This course combines classroom theory and practical laboratory exercises on compressors, brake valves (single and dual), governors, treadle valve, brake chambers, spring brake chambers, relay valves, safety valves, control valves, modulator assemblies, fail-safe monitors, tractor and trailer ratio relay valves, wheel speed sensors, electronic systems, and service brakes as used in heavy duty vehicles.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Automotive Technology, Diesel Mechanics, Industrial Education, or Transportation Technology (9/77).

Allison Automatic Transmissions (55620-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 18 hours lecture/discussion and 22 hours laboratory/workshop per week.

Dates: January 1975–Present.

Objective: To develop understanding of the operation and overhaul procedures of Allison automatic transmissions.

Instruction: Torque converters; hydraulic pumps; valve bodies; circuits; planetary gears; powerflows; internal and external inspection; disassembly and reassembly; adjustment; diagnostic procedures.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Automotive Technology, Diesel Mechanics, Heavy Equipment Operations, or Mechanical Technology (9/77).

Automatic Business Mail Process Systems (55657-00)

Location: Technical Center, Norman, OK.

Length: 320 hours (8 weeks); residential; 16 hours lecture/discussion and 24 hours laboratory per week.

Dates: April 1975–Present.

Objective: To develop the knowledge and skills necessary for performing preventive maintenance, system fault isolation, and repair maintenance of the Automatic Business Mail Processing System.

Instruction: In-depth study of programming and hardware associated with the PDP8E computer, including Power Fail/Auto Restart (KP-8E), Positive I/O Business Interface (KA-8E), Extended Memory Controller (KMO8E), High Speed Reader/Punch (PC-04), High Speed Reader/Punch Controller (PC-8E), Data Break Interface (KD-8E), Disk File (DF32DP), Postal and Data Systems Bar/Half-Bar Code Reader (CR3000), Fairchild LSM and Power Fail/Auto

Restart (KP-8E), Computer Interface, UBM/SPLSM, ABMPS software, system troubleshooting, and system maintenance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer System Architecture and Peripheral Devices; *and* in the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Assembly Language (for a total of 6 semester hours) (9/77).

Automatic Transmission Overhaul (55627-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: October 1970–Present.

Objective: To develop understanding of automatic transmission overhaul procedures; to increase effectiveness, confidence, and skills in diagnosing, disassembling, inspecting, reassembling, and adjusting automatic transmissions and components.

Instruction: Operation and service of torque converters, hydraulic pumps, valve bodies, circuits, clutches, planetary gears, power flows; internal and external inspection, adjustment, and diagnosis procedures. Includes units of instruction and workshop experiences in use of special tools and equipment. Covers the Borg transmissions, and M-43 Shift Command.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Mechanical Technology, or Industrial Education (12/74).

Automotive Electrical Systems (55625-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: July 1970–Present.

Objective: To provide students with technical knowledge in the maintenance and repair of automotive electrical systems and in the use and care of automotive testing equipment, and to increase the students' proficiency in analyzing, diagnosing, and repairing various automotive electrical systems.

Instruction: Automotive electricity and the construction, repair, and adjustment of automotive electrical systems. Includes use of automotive test equipment, battery testing, and the troubleshooting and repair of starting, charging, ignition, lighting, and instrument systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Industrial Electrical Technology or Automotive Technology (12/74).

Automotive Mechanic Fundamentals (55622-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 24 hours lecture/discussion and 16 hours laboratory/workshop per week.

Dates: January 1970–Present.

Objective: To develop a basic understanding of the major components and systems of motor vehicles, of the care and use of shop equipment, hand tools, diagnostic equipment, special tools, and preventive maintenance techniques; to provide a broad foundation for continued education in the automotive field.

Instruction: Covers the basics of automotive mechanics, including shop safety, shop equipment, tire examination and maintenance, brake and suspension systems, engine operation, cooling and fuel systems, automotive electrical circuits (cranking, charging, ignition, instruments), and the testing of electrical circuits. Includes familiarization with clutches, transmissions (manual and automatic), drive lines and rear axles.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Industrial Education, and Transportation Technology (9/77). NOTE: Recommendation does not apply to Automotive Technology majors.

BMC Mail Processing Mechanics (55671-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 24 hours lecture and 16 hours laboratory per week.

Dates: January 1976–Present.

Objective: To develop skills in performing routine preventive, corrective, and emergency repair maintenance on belt conveying and sorting systems.

Instruction: Basic and complex mechanical mechanisms; drive configurations; conveyor components; analysis and troubleshooting of electrical control systems; basic and complex mechanical, pneumatic, and electrical assemblies of sortation equipment, including drive assemblies, conveying assemblies, motors and motor controls, as well as the associated digital electronic control systems.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Electromechanical Technology (9/77).

Brakes and Suspension Systems (55623-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory/workshop per week.

Dates: January 1974–Present.

Objective: To develop skills and knowledge in troubleshooting and maintaining hydraulic brake systems, drum and disc, and their components; to provide an understanding of front end suspension components and geometry.

Instruction: Shop safety; front suspension systems; wheel alignment; steering gears; wheel bearings; steering linkage; wheel balancing; springs and attaching parts; sway control mechanisms; single and dual master cylinders; pressure differential switches; drum and caliper components; metering valves; proportional valves; brake hoses and lines; brake drums; rotors.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Industrial Education, or Transportation Technology (9/77).

Building Equipment Mechanic (55672-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 20 hours lecture and 20 hours laboratory per week.

Dates: March 1976–Present.

Objective: To provide an understanding of air conditioning and heating systems utilized in large installations and develop skills in operating and performing preventive and repair maintenance on air conditioning and heating equipment.

Instruction: Operation and maintenance of basic heating, ventilating, and air conditioning systems, including hot water heating systems, direct expansion and chilled water systems, centrifugal compressors, automatic controls, and central automated building monitoring systems.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Building and Construction Management, Building Maintenance, Building Operations Management, or Electromechanical Technology (9/77).

Caterpillar Diesel (55618-00)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 15 hours lecture and 25 hours laboratory/workshop per week.

Dates: July 1975–Present.

Objective: To provide an understanding of the principles of operation of the 1150 and 3208 Series Caterpillar diesel engines; to develop skill in troubleshooting, diagnosing, servicing, repairing components, performing tune-ups, and using test equipment.

Instruction: Covers the following diesel systems: fuel, air induction, exhaust, cooling, and lubricating. Also covers tune-up procedures, use of analyzing equipment relative to fuel systems, troubleshooting charts, use of manuals and bulletins and use of measuring devices.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Automotive Technology, Diesel Mechanics, Industrial Arts, Industrial Education, or Power Technology (9/77). NOTE: The courses Caterpillar Diesel (55618-00), Cummins Diesel I (55617-01), Cummins Diesel II (55617-02), and Postal Diesel (55639-00) have some overlap in course material. It is therefore recommended that a maximum of 6 credits be granted for completion of two or more of these courses.

Cummins Diesel I (55617-01)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours lecture and 25 hours laboratory/workshop per week.

Dates: June 1976–Present.

Objective: To provide an understanding of the principles of operation of the NTC 230 PT Model Cummins diesel engine; to develop skill in troubleshooting, diagnosing, servicing, repairing components, performing tune-ups, and using test equipment.

Instruction: Covers the following diesel systems: fuel, air induction, exhaust, cooling, and lubricating. Also covers tune-up procedures, use of analyzing equipment relative to fuel systems, and troubleshooting charts. (Prerequisite: Postal Diesel (55639-00) or Caterpillar Diesel (55618-00)).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Automotive Technology, Diesel Mechanics, Industrial Arts, Industrial Education, or Power Technology (9/77). NOTE: The courses Caterpillar Diesel (55618-00), Cummins Diesel I (55617-01), Cummins Diesel II (55617-02), and Postal Diesel (55639-00) have some overlap in course material. It is therefore recommended that a maximum of 6 credits be granted for completion of two or more of these courses.

Cummins Diesel II (55617-02)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 15 hours lecture and 25 hours laboratory/workshop per week.

Dates: January 1977–Present.

Objective: To provide an understanding of the principles of operation of the NTC 230 PT Model Cummins diesel engine; to develop skill in troubleshooting, diagnosing, servicing, repairing components, performing tune-ups, and using test equipment.

Instruction: Covers the following diesel systems: fuel, air induction, exhaust, cooling, and lubricating. Also covers tune-up procedures, use of analyzing equipment relative to fuel systems, troubleshooting charts, use of manuals and bulletins and use of measuring devices.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Automotive Technology, Diesel Mechanics, Industrial Arts, Industrial Education, or Power Technology (9/77). NOTE: The courses Caterpillar Diesel (55618-00), Cummins Diesel I (55617-01),

Cummins Diesel II (55617-02), and Postal Diesel (55639-00) have some overlap in course material. It is therefore recommended that a maximum of 6 credits be granted for completion of two or more of these courses.

Customer Service and Postal Machines (55603-01)

Location: Technical Center, Norman, OK.

Length: 40 hours (1 week); residential; 15 hours lecture and 25 hours laboratory/workshop.

Dates: June 1977–Present.

Objective: To develop skill in preventive maintenance, troubleshooting, analysis, and repair maintenance of postage meters.

Instruction: Troubleshooting, preventive maintenance, and repair maintenance of the Pitney Bowes Meter Machine Bases 4000 Series (R Line), and 5400 Series, Friden Meter Machine Base Model 9010, and Model 14-75 Data Recorder.

Credit recommendation: In the vocational certificate category, 1 semester hour in Mechanical Devices (9/77).

Customer Vending Machines (55610-01)

Location: Technical Center, Norman, OK.

Length: 60 hours (1 1/2 weeks); residential; 30 hours lecture and 30 hours laboratory/workshop.

Dates: July 1977–Present.

Objective: To develop skill in reading schematics, understanding nomenclature, and disassembly and assembly of electromechanical vending equipment.

Instruction: Use of manuals, in-line drawings, schematics, and test equipment to troubleshoot, repair, and make periodic preventive maintenance checks on vending equipment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (9/77).

Digital Computer Technology (55694-00)

Location: Technical Center, Norman, OK.

Length: *Version 1:* 240 hours (6 weeks); residential; 24 hours of lecture/discussion and 16 hours of laboratory/workshop per week.

Version 2: 320 hours (8 weeks).

Dates: *Version 1:* July 1972–July 1975.

Version 2: July 1975–Present.

Objective: To provide programming knowledge needed to enter training on sophisticated digital computerized systems; to provide in-depth knowledge of the theory, operation, troubleshooting, maintenance, and repair of the PDP-8 digital computer; and to familiarize the student with associated peripheral devices commonly used to communicate with high-speed computers.

Instruction: This course is designed to provide the student with the knowledge and skill required to proficiently and effectively repair the PDP-8 digital computer, and to familiarize the student with the peripheral equipment commonly associated with high-speed computers. The hardware portion of the course covers systems description, instruction set utilization, logic diagram analysis of the central processor, memory operation, programmed interrupt, data break, I–O transfer logic, and related peripheral devices. Technical maintenance includes theory of operation and practical hands-on troubleshooting exercises in the laboratory.

Credit recommendation: *Versions 1 and 2:* In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Programming and 3 in Computer Technology or Electromechanical Technology (12/74).

Digital Electronics (55693-00) (Logic Circuits)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 30 hours lecture/discussion and 10 hours laboratory/workshop per week.

Dates: July 1970–September 1975.

Objective: To provide students with a background in digital logic in order to prepare them for advanced training on sophisticated digital electronics equipment.

Instruction: Covers the basic principles of number systems, Boolean algebra, and logic circuits such as gates, encoders, decoders, flip-flops, shift registers, and various counters as found in sophisticated digital equipment, utilizing both theory and equipment hardware.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Computer Systems, Electronics, or Optical Data Processing (12/74).

Electric Vehicle (DJ5E) (55629-00)

Location: Technical Center, Norman, OK.

Length: 140 hours (3 weeks); residential; 15 hours lecture and 25 hours laboratory/workshop per week.

Dates: March 1977–Present.

Objective: To develop the knowledge and skills necessary to achieve proficiency in diagnostic troubleshooting, preventive maintenance, use of applicable test equipment, removal and replacement of defective components, and calibration of printed circuit boards on the Gould Electric Vehicle Propulsion System.

Instruction: Principles of operation and the technical knowledge required to perform preventive and repair maintenance of Gould Electric Powered Vehicle; electrical

and electronic theory; use of test equipment, including the oscilloscope and D.V.M.; schematic interpretation and laboratory exercises on the electrical/electronic propulsion system.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Automotive Technology, Industrial Education, or Transportation Technology (9/77).

Electrical Power Mechanic (EPM) (55677-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory per week.

Dates: April 1976–Present.

Objective: To provide a theoretical and practical background in basic electricity.

Instruction: Basic principles of electricity; electrical power distribution; motors and motor controls; solid state devices and control circuits; electrical diagrams; instruments; troubleshooting techniques; familiarization with and utilization of basic electronic laboratory equipment.

Credit recommendation: In the lower division baccalaureate/associate category, 3 semester hours in Basic Electricity and 1 semester hour in Basic Electronic Laboratory (9/77).

Electronic Sort Processor (ESP) (55659-00)

Location: Technical Center, Norman, OK.

Length: 240 hours (6 weeks); residential; 24 hours lecture/discussion and 16 hours laboratory per week.

Dates: April 1976–Present.

Objective: To enable maintenance personnel to perform preventive maintenance, troubleshooting analysis, and repair maintenance required to maintain the Electronic Sort Processor.

Instruction: Detailed principles of operations; circuit analysis; diagnosis, analysis, and correction of electronic faults within the Electronic Sort Processor system and associated interface module and the peripheral control board; system adjustment and alignment and associated procedures; use of operation and maintenance manuals. Requires previous formal training on electromechanical systems, logic systems, and advanced digital applications.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours as a technical elective in Electronics; or in the upper division baccalaureate category, 2 semester hours as a technical elective in Electronics (9/77).

Engine Tune-up and Air Pollution Control Devices (55624-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: August 1973–Present.

Objective: To provide students with an understanding of automotive air pollution control; to train them to maintain motor vehicles equipped with air pollution control devices; to develop the students' skill in preventive maintenance and engine tune-up, use of engine analyzing and tune-up equipment, analyzing engine performance, and in testing and servicing air pollution control devices.

Instruction: Vehicle air pollution terminology; compression; ignition; carburetion; tune-up procedures; use of analyzing equipment, including the oscilloscope; inspection, testing, and servicing of air pollution control devices in current use.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Industrial Arts, or Industrial Education (12/74).

Environmental Control I (55686-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 20 hours lecture and 20 hours laboratory/workshop per week.

Dates: February 1970–Present.

Objective: To provide a basic understanding of air conditioning and heating systems used in commercial buildings; to develop skills in operating and performing preventive and repair maintenance on air conditioning and heating equipment.

Instruction: Operation and maintenance of forced-air systems, direct-fired heating systems, natural-draft low-pressure hot water and steam boilers, direct-expansion systems (including all reciprocating compressors), and controls for small/medium systems. Special emphasis is placed on energy conservation and safety.

Credit recommendation: In the lower division baccalaureate/associate category, 3 semester hours in Building and Construction Management, Building Maintenance, or Building Operations Management (9/77).

Environmental Control II (55689-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 20 hours lecture and 20 hours laboratory per week.

Dates: July 1971–Present.

Objective: To develop the technician's ability to operate, maintain, troubleshoot, and repair large capacity, year-round environmental control systems and to acquaint the

technician with the tools and procedures used to calibrate, test, and adjust HVAC equipment and systems.

Instruction: Operation and maintenance of large HVAC systems, including mechanical draft low and high pressure steam and hot water boilers, fuels, combustion, burners, boiler controls, pumps, hot water and steam distribution systems, air handlers, air distribution, water and air balancing, centrifugal water chillers, controls for large tonnage condensing units, and system controls. System controls include maintenance and calibration of electric, pneumatic, and electronic control equipment of the major manufacturers. Control system components are: thermostats, relays, transducers, masters and submasters, single and dual input controllers, discriminators, amplifiers, and actuators. Coverage also includes total control system functions and sequence of operation of the year-round environmental control systems with use of central control units.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Building and Construction Management, Building Maintenance, Building Operations Management, or Electromechanical Technology (9/77).

Fundamentals of Automatic Transmissions (55626-00)

Location: Technical Center, Norman, OK.

Length: 40 hours (1 week); residential; 24 hours lecture/discussion and 16 hours laboratory/workshop.

Dates: March 1971–Present.

Objective: To provide an understanding of power flows and the maintenance and adjustment of automatic transmissions.

Instruction: Principles of operation and functions of transmission components; familiarization with parts; use of special tools; use of technical manuals; adjustments and scheduled maintenance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Automotive Technology, Industrial Education, or Mechanical Technology (9/77).

Industrial Electrical Services (55687-00)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory per week.

Dates: January 1972–Present.

Objective: To provide the student with theoretical and practical knowledge of electricity and standard electrical circuits, and the basic skills of electrical wiring in a power distribution system.

Instruction: Principles of electricity; magnetism; direct current; alternating current; motors; generators; transformers; electrical power distribution; motor controls; equipment wiring; electrical lighting; repair and preventive maintenance of a complete electrical system.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Industrial Electronics and 2 semester hours in Power Distribution Technology (9/77).

Mark II Facer-Canceler and Feeder Machine (55653-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 25 hours of lecture/discussion and 15 hours of laboratory/workshop per week.

Dates: July 1969–Present.

Objective: To train maintenance personnel to maintain, troubleshoot, and repair facer-canceler and feeder systems.

Instruction: Component assembly identification, location, and function; repair and parts replacement; troubleshooting analysis techniques; adjustment, alignment, and preventive maintenance of an electromechanical system. Utilizes appropriate technical manuals and data, diagnostic test equipment (oscilloscopes, volt-ohm meters, etc.), and regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology or Mechanical Technology (12/74).

Model 120/121 MPLSM/ZMT On-Site Maintenance Certification Program (55655-02)

Location: Each postal facility maintaining Model 120/121 MPLSM/ZMT equipment.

Length: 85 hours (8 1/2 weeks); 5 two-hour sessions per week.

Dates: August 1970–Present.

Objective: To provide supplemental and supportive training for students who have completed related, prerequisite training in order to bring them an adequate level of proficiency in the repair and maintenance of Multi-Position Letter-Sorter/Zip-Mail Translator Systems.

Instruction: Detailed circuit analysis of all circuits in the ZMT; detailed troubleshooting techniques and peculiarities of equipment; also includes some theory of operation and minor maintenance of peripheral equipment: Model 33 AST Teletype, Mohawk Data Sciences Digital Printer Series 800, EDIT, Sorensen and Lambda power supplies, and the Sequential-Chordal Trainer Console. (Prerequisite: Zip Mail Translator (55655-01) resident training.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanical Laboratory, and 1 semester hour in Electronic Troubleshooting Laboratory (9/77). NOTE: Credit should not be granted for both this course and Model 140/141

MPLSM OSMC Program, Category I (55658-05) or Model 140/141 MPLSM OSMC Program, Category II (55659-02).

Model 140/141 Multi-Position Letter-Sorter Machine (55658-01)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory per week.

Dates: January 1977–Present.

Objective: To train maintenance personnel to troubleshoot, repair, and perform normal preventive maintenance on the multi-position letter-sorter machine.

Instruction: Operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; analysis, diagnosis, and correction of electrical and mechanical equipment malfunctions; preventive maintenance practices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology (9/77). NOTE: This course comprises a two-week session of Model 140/141 MPLSM/ZMT/ESP (55658-04) which is sometimes taken independently.

Model 140/141 MPLSM On-Site Maintenance Certification Program, Category I (55658-05)

Location: Each postal facility maintaining Model 140/141 MPLSM/ZMT equipment.

Length: 190 hours (19 weeks); consisting of 22 programmed modules.

Dates: November 1976–Present.

Objective: To train maintenance personnel to perform preventive maintenance, exercise diagnostic Fault Isolation Techniques, and perform corrective maintenance on the Model 140/141 Multi-Position Letter-Sorting System within minimum time frames.

Instruction: This course includes detailed training in the principles and theory of operation for the 140/141 Multi-Position Letter-Sorter, the Zip-Mail Translator, and the Electronic Sort Processor. Detailed circuit analysis, alignment procedures, and corrective maintenance techniques are included for each sub-assembly of the system. Electronic "Model" concepts are covered as they relate to the 140/141 system. All interfacing and control functions between the Letter Sorter, the ZMT, and ESP are taught in detail. Additional training in the principles and theory of operation of keyboards, teletypes, and associated electrical circuitry.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanical Laboratory, and 1 semester hour in Electronic Troubleshooting Laboratory (9/77). NOTE: Credit should not be granted for both this course and Model 140/141 MPLSM OSMC Program, Category II (55659-02) for Electromechanical Laboratory credit. Also, credit should not be granted for both this course and Model 120/121 MPLSM/ZMT OSMC Program (55655-02).

Model 140/141 MPLSM On-Site Maintenance Certification Program, Category II (55659-02)

Location: Each postal facility maintaining Model 140/141 MPLSM/ZMT equipment.

Length: 140 hours (14 weeks); consisting of 12 programmed modules.

Dates: November 1976–Present.

Objective: To train maintenance personnel to perform preventive maintenance, exercise diagnostic fault isolation techniques, and perform corrective maintenance on the Model 140/141 letter-sorting system within minimal time frames.

Instruction: This course includes detailed training in the practical application and theory of operation for the 140/141 Multi-Position Letter-Sorter, the Zip-Mail Translator, and the Electronic Sort Processor. Detailed circuit analysis, alignment procedures, and corrective maintenance techniques are included for each sub-assembly of the system. Electronic "Model" concepts are covered as they relate to the 140/141 system. All interfacing and control functions between the Letter Sorter, the ZMT, and the ESP are taught in detail.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanical Laboratory (9/77). NOTE: Credit should not be granted for Electromechanical Laboratory for both this course and Model 140/141 MPLSM OSMC Program, Category I (55658-05) or Model 120/121 MPLSM/ZMT OSMC Program (55655-02). Credit may be granted for this course and Electronic Troubleshooting Laboratory in (55655-02).

Model 140/141 MPLSM/ZMT/ESP (55658-00)

Location: Technical Center, Norman, OK.

Length: 520 hours (13 weeks); residential; 20 hours lecture/discussion and 20 hours laboratory per week.

Dates: January 1977–Present.

Objective: To train maintenance personnel to perform preventive and corrective maintenance, exercise diagnostic fault isolation techniques on the Model 140/141 letter-sorting system (including the Multi-Position Letter-Sorter Machine, Zip-Mail Translator, Electronic Sort Processor).

Instruction: Refer to instruction sections of Multi-Position Letter-Sorter Machine (55651-00), Zip-Mail Translator (55655-01), and Electronic Sort Processor (55569-00).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Maintenance Technology, and 3 semester hours in Electromechanical Technology; and in the lower division

baccalaureate/associate degree category, 3 semester hours as a technical elective in Electronics, or in the upper division baccalaureate category, 2 semester hours as a technical elective in Electronics (for a total of 9 or 8 semester hours) (9/77). NOTE: If credit is granted for one or more of the courses cited in the Instruction section, the credit granted for this course should be reduced accordingly. If all the courses cited above are taken, no credit should be granted for this course. This course is also given as an eleven-week course for students who have completed the first two weeks in Model 140/141 Multi-Position Letter-Sorter Machine (55658-01).

Multi-Position Letter-Sorter Machine (55651-00)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 20 hours of lecture/discussion and 20 hours of laboratory/workshop per week.

Dates: May 1970–Present.

Objective: To train maintenance personnel to troubleshoot, repair, and perform normal preventive maintenance on the multi-position letter-sorter machine.

Instruction: Operating principles, component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; analysis, diagnosis, and correction of electrical and mechanical equipment malfunctions; preventive maintenance practices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology or Mechanical Technology (12/74).

Nonpersonnel Office (NPO) Fleet Maintenance (55638-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 28 hours lecture and 12 hours laboratory/workshop per week.

Dates: February 1970–Present.

Objective: To provide knowledge of the objectives of a vehicle maintenance program with emphasis on procedures relating to reports and records, inspecting vehicles, and administering maintenance programs.

Instruction: Includes topics in Vehicle Maintenance Handbooks, Vehicle Operations Handbooks, Position Description Handbooks, maintenance bulletins, modification orders, contract work orders, and contract maintenance. Also covers scheduled and repair maintenance, records and reports, and safety.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Automotive Service Management, Automotive Technology, or Transportation Technology (9/77).

Optical Character Reader I (55656-01)

Location: Technical Center, Norman, OK.

Length: 640 hours (16 weeks); residential; 30 hours lecture/discussion and 10 hours laboratory per week.

Dates: July 1971–Present.

Objective: To prepare electronic technicians to perform preventive and corrective maintenance on the computer-assisted Optical Character Reader I by providing the necessary theoretical background.

Instruction: Consists of a unit-by-unit analysis of the logical circuitry required for the Optical Character Reader to perform its functions. The latest modifications to the system (including Bar Code Reader) are incorporated. Covers the relationship of all the separate component units and their integration into a complete system, including the OCR, the line printer, the magnetic tape memory system, channel multiplexers, the PDP8-L computer, and interface control circuits.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Physics; and in the upper division baccalaureate category, 3 semester hours in Computer Technology and 5 semester hours in Computer Peripheral Devices (9/77).

Optical Character Reader I, On-Site Maintenance Certification Program (55656-02)

Location: Each postal facility utilizing the Optical Character Reader.

Length: 183 hours (minimum of 3 months); approximately 20 hours laboratory per week.

Dates: July 1971–Present.

Objective: To provide the electronic technician with supplemental training in the troubleshooting and repair skills necessary to maintain and repair the computer-assisted Optical Character Reader.

Instruction: Covers theoretical and hands-on training in preventive and corrective maintenance and troubleshooting techniques for use with major sections of the Optical Character Reader including optical systems, vacuum systems, mechanical systems, electronic recognition systems, peripheral devices, and associated interfaces. Also covers the PDP8-L computer.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Laboratory (9/77).

Postal Diesel (55639-00) (Automotive Diesel Mechanics)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: July 1973–Present.

Objective: To enable students to become proficient in troubleshooting, diagnosing, servicing, and repairing components in systems described below, performing diesel engine tune-ups, using test equipment, and analyzing engine performance.

Instruction: Course is designed to provide the student with a thorough understanding of the principles of automotive diesel engine systems, including lubricating, fuel, air induction, exhaust, cooling, and engine clutch. Instruction includes classroom presentations and shop work experiences on diesel systems including fuel, air induction, exhaust, cooling, lubricating, and engine clutch; tune-up procedures; use of analyzing equipment, including the pressure prover, nozzle pop tester, and diesel timing light; proper use of shop and parts manuals, vehicle record cards, technical bulletins, measuring devices, troubleshooting charts, and preventive maintenance schedules.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 5 semester hours in Automotive Technology, Power Technology, Diesel Mechanics, Industrial Arts, or Industrial Education (12/74). NOTE: The courses Caterpillar Diesel (55618-00), Cummins Diesel I (55617-01), Cummins Diesel II (55617-02), and Postal Diesel (55639-00) have some overlap in course material. It is therefore recommended that a maximum of 6 credits be granted for completion of two or more of these courses.

Postal Scales (55605-01)

Location: Technical Center, Norman, OK.

Length: 40 hours (1 week); residential; 15 hours lecture and 25 hours laboratory/workshop.

Dates: September 1977–Present.

Objective: To develop skill in testing, adjusting, preventive maintenance, troubleshooting, analysis, and repair maintenance of mechanical scales.

Instruction: Testing, adjusting, troubleshooting, preventive maintenance, and repair maintenance of such scales as: Pitney Bowes, Pennsylvania, and Triner.

Credit recommendation: In the vocational certificate category, 1 semester hour in Mechanical Devices (9/77).

Postal Service Data Source On-Site Maintenance Certification Program (55641-02)

Location: Each postal facility utilizing the Postal Service Data Source.

Length: 240 hours; self-paced.

Dates: May 1973–Present.

Objective: To provide the electronic technician with supplemental training in the diagnostic and repair skills necessary to maintain and repair in the Postal Service Data Source.

Instruction: Comprehensive theoretical and practical training in troubleshooting and repair of the following types of electronic circuits: relays, digital logic, communications, programming logic, and special purpose circuits. The technician must perform preventive maintenance, adjustment and repair of the following mechanical devices: drive belts, gears, chains, cam shafts, clutches, brakes and associated linkages.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Systems Troubleshooting and Maintenance Laboratory (9/77).

Postal Source Data System (55641-01)

Location: Technical Center, Norman, OK.

Length: 480 hours (12 weeks); residential; 20 hours of lecture/discussion and 20 hours of laboratory/workshop per week.

Dates: July 1972–Present.

Objective: To provide students with knowledge and techniques required to maintain the PSDS system.

Instruction: Familiarization with the entire system, including input, output, and control devices; decimal, binary, and octal number systems, including the manipulation of the three systems and application of the principles to the system; electrical, mechanical, electromechanical, and electronic theory to the depth necessary for effective maintenance of the devices involved; theory of operation of input, output, and control devices; study and application of necessary test equipment; corrective maintenance procedures, based on symptom analysis and effective troubleshooting techniques; routine preventive maintenance procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology, 6 semester hours in Computer System Analysis, and 3 semester hours in Electronic and Electromechanical Fundamentals (12/74).

Security Equipment (55606-01)

Location: Technical Center, Norman, OK.

Length: 40 hours (1 week); residential; 15 hours lecture and 25 hours laboratory/workshop.

Dates: July 1977–Present.

Objective: To develop skill in maintenance and repair of combination locks and lock boxes.

Instruction: Covers troubleshooting, preventive maintenance, and repair maintenance of safe and vault combination locks and lock boxes.

Credit recommendation: In the vocational certificate category, 1 semester hour in Maintenance Mechanics or Security (9/77).

Self-Service Postal Center Equipment Program (55607-00)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 16 hours lecture/discussion and 24 hours laboratory/workshop per week.

Dates: July 1977–Present.

Objective: To develop skill in troubleshooting, servicing, and repairing of components of a number of independent mechanical and electromechanical systems.

Instruction: Burglar alarms; self-service postal scales; coin handling units and packaging machine; currency coin changer; rejectors; dollar bill validators; multi-commodity vending machines; multi-denominational stamp vending machines.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Electromechanical Technology or Mechanical Technology (9/77).

Single-Position Letter-Sorter Machine (55652-00)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 23 hours lecture/discussion and 17 hours laboratory per week.

Dates: January 1974–Present.

Objective: To train technicians responsible for the preventive maintenance, troubleshooting, repair, and installation of digitally controlled electromechanical equipment.

Instruction: Equipment orientation; use of maintenance manuals; system control; signal data flow; logic circuit and mechanical analysis; component assembly, identification, and replacement procedures as applied to the single-position letter-sorter machine. (Prerequisite: The student must have passed an electromechanical exam and have a knowledge of basic electricity.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Digital Systems and 1 semester hour in Electromechanical Systems (9/77).

Vehicle Maintenance Analyst (55628-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 24 hours lecture and 16 hours laboratory per week.

Dates: September 1970–Present.

Objective: To provide the participant with an understanding of the duties and responsibilities in the technical areas of vehicle inspection, maintenance analysis, corrective measures, and work interpretation; to introduce the proper methods of preparation of detailed directive work orders.

Instruction: Vehicle maintenance records; manufacturers' publications; headquarters' maintenance bulletins; modification work orders; cost and safety; preparing and analyzing work orders; use of automotive diagnostic test equipment; troubleshooting techniques; methods of analyzing vehicles; repair procedures; interim maintenance programs; the vehicle maintenance analyst's duties, responsibilities, and working relationships; the organizational structure of vehicle maintenance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Automotive Technology or Transportation Technology (9/77).

Vehicle Maintenance Facility (VMF) Control (55634-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 25 hours lecture/discussion and 15 hours laboratory per week.

Dates: February 1971–Present.

Objective: To provide the student with a understanding of a vehicle maintenance facility's operating policies and procedures and to develop skills in the application of these procedures to daily operations.

Instruction: Topics related to the operation of a vehicle maintenance facility, emphasizing the efficient application of management techniques to manpower control; problem identification and solving; stockroom control; fleet maintenance record and report use; shop safety; fleet-oriented programs.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Automotive Service Management, Automotive Technology, or Transportation Technology (9/77).

Vehicle Maintenance Facility (VMF) Utilization (55633-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 25 hours lecture/discussion and 15 hours laboratory/workshop per week.

Dates: September 1970–Present.

Objective: To provide participants with techniques for a vehicle maintenance facility, emphasizing selection of appropriate corrective action to obtain maximum utilization of space, parts, personnel, and equipment.

Instruction: Work evaluation; repair order analysis; ratio of parts costs to labor costs; estimating; job analysis; vehicle maintenance programs; communication skills.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Automotive Service Management, Automotive Technology, and Transportation Technology (9/77).

Zip-Mail Translator (55655-01)

Location: Technical Center, Norman, OK.

Length: 240 hours (6 weeks); residential; 28 hours of lecture/discussion and 12 hours of laboratory/workshop per week.

Dates: August 1970–Present.

Objective: To train students to troubleshoot, repair, and perform preventive maintenance on the zip-mail translator system of the letter-sorter machine.

Instruction: Component assembly identification, location, function; repair and parts replacement; troubleshooting analysis techniques; adjustment, alignment, and preventive maintenance procedures. Teaches the proper use of appropriate technical manuals and data, diagnostic test equipment, and regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing System Analysis and 3 semester hours in Data Processing Technology, Electronics Technology, or Computer Maintenance Technology (12/74).

United States Public Health Service—Indian Health Service

The Indian Health Service (IHS) is a component of the Public Health Service, Department of Health, Education, and Welfare, whose efforts are directed toward improving health services and promoting better health for all Americans. IHS serves the health needs of some 700,000 Indians and Alaskan natives who look to the federal government for assistance. The majority of the Native Americans live on federal Indian reservations in 24 states mostly west of the Mississippi, and in villages of Alaska.

The Training Center program was established in 1968 to help achieve the mission of IHS by identifying the training needs of Indian and Alaskan native people and to develop specific training programs designed to meet those needs. Training is offered in the areas of health awareness, health skills, and health management, with emphasis on development of tribal capacity to function independently.

These courses were designed for the Community Health Representatives and other tribal health workers who, as liaisons between the native American communities, the health facilities, and the tribes, provide health services to their people.

Source of official student records: Director, IHS Training Center, Office of Research and Development, Indian Health Service, P.O. Box 11650, Tucson, Arizona 85734.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of the California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Basic Maternal and Child Health (MCH100)

Location: Talihina, OK; Rapid City, SD; field locations in the United States.

Length: 62 hours (2 weeks).

Dates: February 1977–Present.

Objective: To provide community health workers with the opportunity to increase their knowledge and skills in maternal and child health care.

Instruction: An introduction to the child-bearing cycle, family-centered maternity care, and health needs of infants and children. Content focuses on the role of allied health workers in health care management, skills training in vital signs, assessment measurements, screening of school-age children, disease prevention, and health education. The course is taught through lecture and discussion, supplemented by laboratory and field trips.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Allied Health, Community Health, or Public Health (9/78).

Community Health Representative (CHR100)

Location: Talihina, OK; Rapid City, SD; field locations in the United States.

Length: 88 1/2 hours (3 weeks).

Dates: May 1977–Present.

Objective: To introduce basic concepts of health and disease, communication skills, health planning, and community organization.

Instruction: An introduction to the tasks required of community outreach workers as related to community health problems and community resources; basic concepts of health and disease including physical and mental health, nutrition, maternal and child health, dental health, and environmental health; the skills required in effective communication, first aid, safe driving, and community development. Lectures and discussion are used, supplemented by laboratory and field trips.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Allied Health, Community Health, or Public Health (9/78).

Environmental Health Concepts and Practices (EHE100)

Location: Talihina, OK; Rapid City, SD; field locations in the United States.

Length: 60 hours (2 weeks).

Dates: December 1976–Present.

Objective: To create an awareness of the influence of environmental factors on health; to introduce fundamental skills essential for environmental health technicians.

Instruction: Basic concepts of environmental health and sanitation, including water, waste disposal, zoonoses and vector-borne diseases, food-borne diseases, accident and injury prevention, housing, recreation, and public building sanitation. The course is taught primarily through lectures, supplemented with class demonstrations, laboratory, and field trips.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Allied Health, Community Health, Environmental Health, or Public Health (9/78).

Introduction to Human Services (HSE100)

Location: Talihina, OK; Rapid City, SD; field locations in the United States.
Length: 72 hours (2 weeks).
Dates: May 1977–Present.
Objective: To increase an understanding of the roles and relationships in human services and to develop associated skills.
Instruction: An introduction to human services, focusing on group processes, problem solving and decision making, communication skills, human behavior, and crisis counseling. The course is taught through lectures and discussion, supplemented by field experience.
Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Guidance and Counseling, Rehabilitation Counseling, or Social Services (9/78).

Nutrition Awareness (NCR100)

Location: Talihina, OK; Rapid City, SD: Sante Fe, NM: field locations in the United States.
Length: 57 hours (2 weeks).
Dates: May 1977–present.
Objective: To learn about the relationship of food to health, including food selection and preparation.
Instruction: An introduction to food and dietary habits and their impact on food selection and preparation. Content covers food needs of various age groups, meal planning, purchasing, and storage. An overview of food advertising, persuasion through advertising, and community education. The course is taught through lecture and discussion, supplemented by demonstrations, small group work sessions, and field trips.
Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Food Science, Food Technology, or Home Economics (9/78).

Rehabilitation and Home Health Care (RHH100)

Location: Talihina, OK; Rapid City, SD; field locations in the United States.
Length: 57 hours (2 weeks).
Dates: May 1977–Present.
Objective: To equip students with the skills necessary to perform home health care procedures.
Instruction: Basic skills necessary for general home health care and rehabilitation, including vital signs, care of ostomies and decubitus ulcers, bed bathing, and patient movement. Emphasis is on identifying patient problems, problem solving, and communicating health and disease information. The student is involved in skills training and practice, supplemented by lectures.
Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Allied Health, Community Health, or Rehabilitation (9/78).

Westinghouse Electric Corporation

Westinghouse Electric Corporation is primarily engaged in the manufacture of products for the generation, transmission, and use of electricity. Headquartered in Pittsburgh, Pennsylvania, Westinghouse employs approximately 160,000 people world-wide.

The Westinghouse Education Center Training Department offers formal course work to all management and professional employees throughout the corporation. Courses cover general management and business topics as well as more specialized subjects in the functional areas of manufacturing, engineering, finance, sales, marketing, etc.

Training is most frequently conducted in the Pittsburgh area for employees throughout the world. However, many courses can be presented at different plant/division sites.

Source of official student records: Director, Westinghouse Education Center, Ardmore Boulevard and Brinton Road, Pittsburgh, Pennsylvania 15221.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office of Lifelong Learning, Department of Education, Box 911, Harrisburg, Pennsylvania 17126.

Business Management Course (871)

Location: Pittsburgh, PA.
Length: 48 hours (6 days).
Dates: January 1972–Present.
Objective: To conduct self-assessment and relate that assessment to team effort; to apply accounting and financial tools and concepts in achieving managerial control; and to develop skills in applying behavioral concepts and processes in integrating individual needs with organizational goals.
Instruction: Covers the development of organizational and personal potential; managerial and financial concepts such as measurement of performance, financial statements, capital expenditures, and factors underlying depreciation

policies; inventory policies; capital budgeting; analysis of production costs; standard cost systems, including direct costing vs. absorption costing; profitability improvement program; dynamics of individual/organizational growth. Utilizes lectures, instructions, workshops, demonstrations, group problem solving, and case studies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Accounting, Finance, or Management (11/77).

Computer Concepts (885)

Location: Pittsburgh, PA.
Length: 30 hours (3 days).
Dates: April 1975–Present.

Objective: To provide an understanding of data processing needs within the framework of information systems logic, and to provide an understanding of the problems of computer control.

Instruction: Includes introduction to data processing fundamentals; corporate applications; interaction with the computer via terminals. Course utilizes lectures and workshops with terminals.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Science or Data Processing (11/77).

Concepts of Distribution Management (768) (Wholesaling)

Location: Pittsburgh, PA.
Length: 32 hours (4 days).
Dates: December 1974–Present

Objective: To develop an understanding of the manufacturer-distributor/wholesaler relationship.

Instruction: Covers financial analysis; management of inventory; management of accounts receivable; cash flow analysis; market and product profitability analysis; developing the distributors market segments with users, OEM's, government and utilities and REA's; joint planning and objective setting with the manufacturer and distributor.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Marketing (11/77).

Dynamics of Applied Marketing Management (771)

Location: Pittsburgh, PA.
Length: 40 hours (5 days).
Dates: August 1977–Present.

Objective: To provide an opportunity for the utilization of selected marketing concepts in the decision-making process and to help the participants become more effective decision makers on more complex and long-range marketing planning issues.

Instruction: An in-depth coverage of a variety of decision-making tools and techniques in applied to an ongoing case study from the standpoint of a corporate divisional marketing manager. Participants are expected to apply increasingly more difficult concepts including, but not restricted to, product pricing matrices, short- and long-run forecasting techniques, promotional strategy analysis, product life cycles, and investment decisions. The course requires extensive analysis leading to development of a detailed five-year, long-range strategic plan for the case firm.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Marketing (11/77).

Economics of Competition Seminar (637) (Introduction to Economic Analysis)

Location: Pittsburgh, PA.
Length: 24 hours (3 days)
Dates: November 1967–Present.

Objective: To introduce the interrelationships of operating a business in today's economic system and the impact of national and international forces on making business decisions and to aid the student in visualizing problem-solving solutions within an environment of current and anticipated economic and social changes.

Instruction: An overview of economics: the foundation of economic freedom and competitive markets; Adam Smith to John M. Keynes; the American enterprise system, other economic systems, and future directions; economic roles of government and business; competition, monopoly, and government policy; labor organizations, labor markets, and public policy; consumerism; population; the environment, waste disposal, and ecology; energy and shortages; population and poverty; the economic role of women; economics of national security; productivity and labor costs; economic challenges of the future; economic growth; the United States, the mature economies, and the emerging nations; the national economy-prices, inflation, indexes and indexation, controls, and forecasting; achieving economic stability: monetary and fiscal policies; the U.S. in the world economy.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Economics (11/77).

Management Functions and Policies (869)

Location: Pittsburgh, PA.
Length: 40 hours (5 days).
Dates: November 1967–Present.

Objective: To develop effective management skills; to understand corporate activities and policies; and to integrate theory and concepts into practical application of principles, techniques and skills of effective management;

facilitate behavior change leading to individual performance improvement and growth in capabilities and responsibilities.

Instruction: Covers functions of the manager; managerial financial control; Westinghouse business simulation; group dynamics; team building; corporate policy review; continuing growth and development. Includes lectures, workshops, simulation, films, case studies.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (11/77).

Management Techniques (867, 868)

Location: Pittsburgh, PA.
Length: 40 hours (5 days).
Dates: November 1967-Present.

Objective: To introduce basic and common functions and principles of management.

Instruction: The management cycle—a system approach; the planning function of management; organizing function of management; implementing function of management; review function of management; feedback function of management; action plan for results. Course includes lectures, case studies, simulation, in-basket techniques, role playing, and films.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management (11/77).

Marketing Analysis and Forecasting Seminar (762)
(Marketing Research)

Location: Pittsburgh, PA
Length: 24 hours (3 days).
Dates: April 1974-Present.

Objective: To develop the participant's knowledge and decision-making skills in marketing forecasting and planning through application of tools and techniques of information gathering and data analysis.

Instruction: Gathering and analyzing marketing information and the application of forecasting techniques in marketing planning. Utilizes workshops, lectures, and case studies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Marketing (11/77).

Marketing Communications Concepts and Planning Seminar (767)

Location: Charlottesville, VA.
Length: 40 hours (5 days).
Dates: August 1972-Present.

Objective: To provide the participant with a framework for understanding the interrelated role of the communications task with those of the entire marketing function.

Instruction: Development of marketing strategy with emphasis on analysis of communications media channels for implementing that strategy. Case studies, lectures, and group studies are utilized.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Marketing (11/77).

1. Marketing Management Course (752) (Principles of Marketing)
2. Professional Marketing Course (456)

Location: Pittsburgh, PA; Lansing, MI.
Length: 1. 40 hours (5 days).
2. 40 hours (5 days).
Dates: January 1970-Present.

Objective: To increase the manager's understanding of an array of elements of marketing and how they relate to each other.

Instruction: Covers marketing in business; sales force strategy; marketing communications; pricing decisions; developing marketing strategy; market planning; product life cycle; trade-offs in marketing decisions; new product development; multinational marketing; financial evaluation of marketing decisions; marketing strategy and the sales force; managing the product mix. Utilizes lectures, case studies, and workshops.

Credit recommendation: *Course 1 or Course 2:* In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Marketing (11/77). NOTE: 3 credits should be granted for either the Marketing Management course or the Professional Marketing course, but not both.

Marketing Strategy and Business Planning Seminar (790)

Location: Pittsburgh, PA.
Length: 24 hours (3 days).
Dates: April 1976-Present.

Objective: This course seeks to develop an understanding of strategy formation as it relates to the marketing process.

Instruction: Course stresses quantitative and financial application. Topics covered are product line portfolio management; price and cost experience curve relationships; planning marketing strategy; allocation of resources; product life cycle and the international strategic marketing plan. Course emphasizes application, testing, and effects of various ratios and other quantitative techniques to long-range planning problems. Case study, discussion, team consultation, and simulation are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Marketing (11/77).

Models for Management (900/890) (Organizational Behavior)

Location: Pittsburg, PA.
Length: 24 hours (3 days).
Dates: January 1973–Present.
Objective: To introduce participants to the behavioral science concepts as they apply to managerial practices.
Instruction: Course surveys the behavioral concepts associated with McGregor, Brunswick, Lewin, Luft and Ingham, Maslow, Herzberg, and Blake and Mouton. Lectures, discussions, workshops, and team activity are used.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Management (11/77).

Multinational Seminar (770) (Multinational Marketing Seminar)

Location: Morgantown, WV.
Length: 40 hours (5 days).
Dates: August 1971–Present.
Objective: To increase a student's knowledge and sensitivity of the many considerations involved in marketing products and services throughout the world.
Instruction: Focuses on global environmental analysis; development of multinational marketing strategy; planning business strategy for a multinational division, business unit, group, and corporation. Utilizes case studies, articles, group workshops, lectures, and discussions.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Marketing (11/77).

Sales Management Course (761) (Marketing Management)

Location: Charlottesville, VA.
Length: 40 hours (5 days).
Dates: July 1973–Present.
Objective: To develop a framework for understanding the various managerial elements that ultimately affect certain sales/marketing tasks which are required for effectively implementing the marketing strategy.
Instruction: Course concentrates on marketing strategy using various case studies. One segment of the course concentrates on management of the marketing effort. Another segment concentrates on development of marketing strategy. Topics include administration; coaching; counseling evaluation; organization; deployment; personnel selection; training; compensation.
Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Marketing (11/77).

Techniques of Finance and Accounting (864)

Location: Pittsburgh, PA.
Length: 40 hours (5 days).
Dates: February 1975–Present.
Objective: To develop an understanding and appreciation of financial and accounting concepts and to apply the products of accounting to managerial decision making.
Instruction: Classification and recording of transactions; understanding of the derivation of financial statements; application of selected accounting and financial concepts to managerial decision making. Includes lectures and workshops dealing with accounting problems. This course does not include principles of accounting.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Accounting or Finance (11/77).

Xerox Corporation

Xerox Corporation is an information-processing organization with interests in copiers/duplicators, education, aerospace, and medical diagnostics. Xerox activities extend to 113 countries.

A variety of residential training courses is offered to Xerox employees from the United States and Canada at the International Center for Training and Management Development. Each division within the corporation conducts training programs for its employees.

International Center for Training and Management Development

The Xerox International Center for Training and Management development in Leesburg, Virginia, provides sales, service, and management training programs for Xerox employees from the United States and Canada.

NOTE: Course material in the technical courses listed below may overlap considerably as indicated in the course descriptions. When students have completed several of these courses, institutions should assess the combinations of courses carefully to avoid duplication of credit.

Source of official student records: Xerox International Center Personnel Administration Department, Xerox International Center for Training and Management Development, P.O. Box 2000, Leesburg, Virginia 22075.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

1824/1860 (A42)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); residential.

Dates: January 1976–Present.

Objective: To provide an introduction to photographic processes and the technical knowledge and skills required to adjust, troubleshoot, service, and repair a copier that prints from microfilm.

Instruction: Troubleshooting using schematic analysis is emphasized. Knowledge of image reproduction; principles of operation; component assembly identification; adjustment procedures; repair and service of electrical and mechanical components. Also covers customer relations skills. Practical laboratory exercises are used to strengthen repair skills.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (6/78).

Account Management Training Program (Sales Accounts Management)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 73 hours; 36 hours of self-paced pre-school instruction and 37 hours (1 week) classroom instruction in residence.

Dates: January 1977–Present.

Objective: To prepare the student to analyze and meet the needs of major customer accounts for information processing systems.

Instruction: Effective executive sales calls and account presentation skills; executive decision-making; major account-reporting systems; industry marketing resources; account reviews; comparative analysis and financial justification of large information-processing systems. Lectures, discussions, role play, and one major presentation are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Marketing and Sales Management (2/77).

1. Basic Sales School
2. Advanced Sales School

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 1. 360 hours (9 weeks), 240 hours of self-paced pre-school instruction and 120 hours (3 weeks) of classroom instruction in residence.
2. 140 hours; 100 hours self-paced pre-school instruction and 40 hours (1 week) classroom instruction in residence.

Dates: July 1976–Present.

Objective: To provide students with the conceptual and technical backgrounds necessary to enable them to perform successfully in selling and marketing positions.

Instruction: Analysis of the market-system environment; basic business functions; business communications; financial analysis; principles of organization and management; product capabilities; analysis of the sales cycle; selling techniques; psychology of persuasion; client-need analysis; marketing strategies; account and territory management; analysis of the competition. Lectures, cases, role playing, self-paced instruction, discussions, video tapes, and, in the pre-school component of the advanced sales course, field sales apprenticeship are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Introduction to Business Management and in the upper division baccalaureate category, 6 semester hours in Sales and Marketing (2/77).

6500 Color Copier (A24)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); 2 1/2 hours of lecture, 10 hours of discussion, and 17 1/2 hours of self-paced study and laboratory per week.

Dates: January 1975–Present.

Objective: To train maintenance personnel to troubleshoot, align, adjust, and repair color copiers equipped with time-sharing devices.

Instruction: In-depth study of theory and applications of color and light phenomena; advanced logic functions and time sharing; familiarization with color copier modules; identification, location, and function of electrical, mechanical, optical, and xerographic components and modules; use of precision measuring and adjusting tools; fault analysis, diagnostics, and adjustment/alignment techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and Maintenance, 1 semester hour in Digital Systems, and 1 semester hour in Principles of Color Photography (3/75).

Computer Forms Printer (Duplicator)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 120 hours (3 weeks); 14 hours of lecture, 3 hours of discussion, and 23 hours of laboratory per week.

Dates: January 1975–January 1977.

Objective: To provide knowledge necessary for advanced troubleshooting to maintain an electronic-intensive, electromechanical, data processing type office machine designed for computer printout input with collator output features.

Instruction: Component location and function, system operation, logic circuitry; use of electronic instruments (CRO, etc.); mechanisms; xerography; fault analysis diagnosis techniques necessary to troubleshoot, adjust, and align a complex electromechanical system.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

3100 Copier Cross-Train (A23)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 70 hours (1 1/2 weeks); 62 hours of school residence, 8 hours of post-school; 6 hours of lecture and 34 hours of laboratory per week.

Dates: February 1975–Present.

Objective: To prepare individuals to perform fault analysis, operational diagnosis, and alignment/adjustment of an electronic intensive copier machine.

Instruction: Solid-state electronic circuit functions, mechanisms and their adjustment; use of precision devices and xerographic principles and opticals modules. Laboratory project is oriented to module understanding and fault analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

4000 Cross-Training (A22)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 120 hours (3 1/2 weeks); 4 hours of lecture, 8 hours of discussion, and 28 hours of laboratory/workshop per week.

Dates: June 1974–Present.

Objective: To train maintenance personnel to perform the normal preventive maintenance, troubleshooting analysis, and repair maintenance required on the copier machine.

Instruction: Functions of logic circuitry; operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; fault analysis, diagnosis, and correction of electrical and mechanical equipment and malfunctions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

Customer Support Techniques (Selling Products/Services by Telephone)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 200 hours; 160 hours pre-school self-paced instruction and 40 hours (1 week) classroom instruction in residence.

Dates: April 1976–Present.

Objective: To enable the student to serve customer needs and/or problems via the telephone.

Instruction: Aspects of customer relations including preparation for the call and determining customer attitude; promoting products and services to the satisfied customer; solving problems for the dissatisfied customer and follow-up activities. Lectures, discussion, role plays, and workshops are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Office Techniques (2/77).

850 DTS (A73)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 45–52 hours (1 week, 2 days); self-paced, residential.

Dates: January 1978–Present.

Objective: To provide functional knowledge of a complete microprocessor-controller typing system and of the technical skills required to operate, troubleshoot, service, and repair the total system.

Instruction: Operation, adjustment, and maintenance of a microprocessor-controlled typewriter system using automated diagnostic aids. Systems covered include magnetic disk units, display units, typing console, and printers. Troubleshooting practices are covered using flow chart analysis to pinpoint problem areas. Laboratory exercises are also used.

Credit recommendation: In the lower division baccalaureate/associate category, 1 semester hour in Electromechanical Technology (6/78).

9200 Duplicator (A61)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 172–240 hours (4 1/2–6 weeks); self-paced.

Dates: January 1975–Present.

Objective: To provide participants with the knowledge and skills necessary to install, perform preventive maintenance on, troubleshoot, and repair a complex electromechanical duplicating system.

Instruction: Systems fault analysis; xerography; functional operation of optics; systems accounting; theory of AC and DC circuits; fundamental principles of solid-state devices; logic elements, flip-flops, and their use in control

and timing circuits; operation of complex mechanical mechanisms involving their adjustment and timing sequences in relationship to electronic control systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Digital Systems and 2 semester hours in Electromechanical Mechanisms (3/75).

9400 Duplicator (A27)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); self-paced; residential.

Dates: July 1977–Present.

Objective: To provide experienced technical personnel with advanced diagnostic skills and theory required to service and repair a microprocessor-controlled duplicator system.

Instruction: Update of experienced technical personnel in the difference between the 9400 and 9200 copiers. Includes servicing, troubleshooting, and repair procedures using automatic microprocessor-controlled programs and check charts. Practical laboratory exercises are also used. (Prerequisite: 9200 Duplicator [A61].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (6/78).

840 Engineering Printing System (A41)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); 4 hours of lecture, 16 hours of discussion, and 20 hours of laboratory per week.

Dates: January 1975–Present.

Objective: To provide knowledge necessary to maintain electromechanical office copying equipment, and to provide in-depth knowledge of the theory, operation, diagnostics, and maintenance techniques required to develop a proficient and effective method of maintaining the equipment.

Instruction: Component assembly identification, location, function, repair and parts replacement; troubleshooting analysis techniques; adjustment, alignment, and preventive maintenance philosophy of an electromechanical system. Utilizes appropriate technical manuals and data, diagnostic test equipment (volt-ohm meter, ammeter), regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (3/75).

800 ETS/CETS (A71)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 90 hours (2 weeks and 2 days); residential.

Dates: February 1976–Present.

Objective: To provide the technical knowledge and skills necessary to operate, troubleshoot, repair, and maintain an electric typing system.

Instruction: An in-depth study of the logic circuits and the interrelationship of electromechanical components including printers, magnetic tape units, mechanical and magnetic card units, and computer memory devices. Emphasis is on operating diagnostic aids, routine maintenance and repair, and replacement of faulty electrical or mechanical components.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (6/78).

Managing Tasks Through People

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); residential; plus 6 hours precourse work and 10 hours of outside preparation per week.

Dates: March 1976–Present.

Objective: To improve the effectiveness of middle managers by providing them with managerial information, skills, and techniques.

Instruction: Topics in administrative and behavioral management including planning, decision-making, management practices, performance objectives and analysis, and interactive skills. Methodology includes lecture and discussion, group exercises, short cases, and videotape presentations.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Adminstrative and Behavioral Management (6/78).

600 Microfilm Enlarger Printer (A40)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); 4 hours of lecture, 12 hours of discussion, and 24 hours of laboratory a week.

Dates: January 1975–Present.

Objective: To prepare individuals to perform fault analysis, diagnosis, and alignment/adjustment of the electrical circuitry and the mechanical components of a Microfilm Enlarger Printer.

Instruction: Electrical components and their assembly into an operational system; electrical schematic diagrams and their use in fault analysis/troubleshooting and correction. Basic mechanical adjustment/alignment techniques and procedures.

Credit recommendation: In the vocational certificate category, 2 semester hours in Electromechanical Technology (3/75).

4000 New Hire (A02)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 136 hours (3 1/2 weeks); 8 hours of lecture, 8 hours of discussion, and 24 hours of laboratory/workshop per week.

Dates: June 1974–Present.

Objective: To train maintenance personnel to perform the normal preventive maintenance, troubleshooting analysis, and repair maintenance required on the copier machine.

Instruction: Electrostatics, optics, photo conduction and the principles of xerography; functions of logic circuitry; operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; fault analysis, diagnosis, and correction of electrical and mechnical equipment malfunctions; preventive maintenance practices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

New Hire Copier (A00)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 160 hours (4 weeks); 4 hours of lecture, 16 hours of discussion, and 20 hours of laboratory per week.

Dates: January 1975–Present.

Objective: To provide occupational skill in diagnosis and correction of mechanical and electrical equipment malfunction in copiers.

Instruction: Familiarization with xerographic equipment, specific component location, symbolic representation of functions and operation; the system operation of basic copiers.

Credit recommendation: In the vocational certificate category, 3 semester hours in Electromechanical Technology (3/75).

New Hire Duplicator 3600 (A06) (Formerly [A01])

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: *Version 1:* 152 hours (19 days); residential; 12 hours of lecture, and 28 hours of laboratory per week.
Version 2: 180 hours (25 days).

Dates: *Version 1:* January 1975–January 1977.
Version 2: February 1977–Present.

Objective: To provide occupational skill in diagnosis and correction of mechanical and electrical equipment malfunction in copiers.

Instruction: Familiarization with xerographic equipment; specific component location, symbolic representation functions and operation; the system operation of basic copiers, systems fault analysis (troubleshooting) techniques necessary to adjust and replace faulty components.

Credit recommendation: In the vocational certificate category, 3 semester hours in Electromechanical Technology (3/75).

Telecopier 200 (A56)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 56 hours (7 1/2 days); residential.

Dates: January 1977–Present.

Objective: To train students to adjust and repair the Xerox Telecopier 200.

Instruction: Use of operation and service manuals; isolation and repair of malfunctions using a check-sheet troubleshooting procedure. Lectures are used to teach operation and repair practices and laboratory exercises provide practical experience on actual systems, including instructor and student-inserted system problems which students locate by following check-sheet procedures.

Credit recommendation: In the vocational certificate category, 1 semester hour in Troubleshooting (6/78).

Telecopier 400/410 (A57)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 30–35 hours (1 week); self-paced, residential.

Dates: April 1978–Present.

Objective: To train students to adjust and repair the Xerox Telecopier 400/410.

Instruction: Use of operation and service manuals; isolation and repair of malfunctions using a check-sheet troubleshooting procedure. Self-paced instruction is used to teach operation and repair practices and laboratory exercises provide practical experience on actual systems, including instructor and student-inserted system problems which students locate by following check-sheet procedures.

Credit recommendation: In the vocational certificate category, 1 semester hour in Troubleshooting (6/78).

3400 Update Training (H31)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 43–65 hours; self-paced, residential.

Dates: January 1978–Present.

Objective: To train experienced technical personnel to service, troubleshoot, and repair a 3400 series duplicator.

Instruction: Update of experienced technical personnel in the differences between a 3100 and a 3400 copier. Includes servicing, troubleshooting, and repair procedures using automatic diagnostic programs and check charts. Practical laboratory exercises are also used. (Prerequisite: 3100 Copier Cross-Train [A00].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanical Technology (6/78).

5400 Update Training (A28)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); self-paced, residential.

Dates: October 1977–Present.

Objective: To prepare experienced technical personnel to diagnose, repair, and adjust faulty components or subsystems within the copier-duplicator.

Instruction: Instructs experienced technical representatives to train persons in the operation of the 5400 copier; troubleshooting procedures using check charts and some automated diagnostic processes. Laboratory exercises are also used. (Prerequisite: 4000 new Hire [A02], or 4000 Cross Training [A22].)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electromechanical Technology (6/78).

Young Men's Christian Association of Metropolitan Los Angeles

The Young Men's Christian Association (YMCA) of Metropolitan Los Angeles is a movement of over 110,000 members served by 23 branches in Los Angeles. In addition, the YMCA of Los Angeles provides management services in personnel, financial development, program development and other areas to 100 YMCA units in Southern California.

The YMCA provides training programs in all of these areas to enable staff to maximize their skills and provide services to the community.

Source of official student records: Director of Personnel, YMCA of Metropolitan Los Angeles, 548 South Spring Street, Suite 500, Los Angeles, California 90013.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, The Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California 90802.

Current Support Institute/Advanced Financial Development Institute

Location: Designated centers in southern California.

Length: 36 hours (1 week).

Dates: February 1978–Present.

Objective: To provide managers of financial campaigns for nonprofit agencies with pragmatic and theoretical techniques of campaign organization and management.

Instruction: Procedures and techniques for organizing and implementing fund raising campaigns for nonprofit organizations. Topics include roles of leadership; campaign steps; major gifts organization; recruiting, motivating, and training of staff and volunteers; public relations, campaign aids. Lecture, discussion, and role playing are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Administration, Management, Recreation, or Social Work (2/78). Note: To be eligible for credit, student must successfully complete optional project.

Management Skills Development Program

Location: YMCA's in southern California.

Length: 40 hours (8 weeks).

Dates: February 1978–Present.

Objective: To introduce basic management concepts and to provide practice in applying prescribed methods in the work setting.

Instruction: An introduction to the processes of planning, organizing, controlling, performance appraisal, communications, motivation, and decision making. Lecture, discussion, case analysis, and multimedia techniques are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration or Public Administration or in the upper division baccalaureate category, 2 semester hours in Business Administration or Public Administration (2/78). Note: To be eligible for credit, student must successfully complete optional project.

Program and Group Work Development Institute

Location: Designated centers in southern California.

Length: 26 hours (3 days).

Dates: February 1978–Present.

Objective: To provide practical and theoretical training in program planning and group work methods as they apply to recreation, group work, and to agencies serving youth.

Instruction: A laboratory experience in group processes, observation, and leadership using program planning as a medium for exploration for group work methods. The course is an intensive experiential program. Lecture and discussion are also used.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Education, Recreation, Social Work, or Sociology (2/78). Note: To be eligible for credit, student must successfully complete optional project.

Young Women's Christian Association of the U.S.A.

The Young Women's Christian Association of the U.S.A. is an autonomous women's membership movement, with programs and services in more than five thousand locations in the United States. It is a multiservice agency whose programs are designed to meet the needs of the community, with special emphasis on the program needs of teen and adult women. More than two and a half million persons participate in its programs.

The National Training Program, developed by the National Board of the YWCA for Associations across the country, provides leadership training for professional staff and corporate volunteers. Its goal is to strengthen the skills of women within the YWCA so that they can utilize their human, financial, and physical resources more effecively. The program includes basic and advanced management courses, advanced program development, and training for new staff. Courses are conducted in selected facilities around the country, using classroom instruction, workshops, and individual assignments.

Source of official student records: Director of Membership-Leadership Development, National Board, YWCA, 600 Lexington Avenue, New York, N.Y. 10022.

Additional information about the courses: Program on Noncollegiate Sponsored Instruction, Office on Educational Credit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

Advanced Management Workshop in Finance

Location: Various locations nationally.

Length: 28 1/4 hours (5 days); residential.

Dates: March 1977–Present.

Objective: To provide students with the principles and methods applicable to securing and managing financial resources.

Instruction: Use of cash budgeting as a management tool; the auditor's role; financial reporting; asset and purchasing control; approaches to fund raising; establishing a development plan; foundation and government funding. Methodology includes lecture, discussion, and case studies.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration or Education (3/77).

Advanced Management Workshop in Personnel Administration

Location: Various locations nationally.

Length: 33 hours (5 days); residential.

Dates: March 1977–Present.

Objective: To provide professionals and volunteers with training in principles and methods of establishing sound personnel policies and practices.

Instruction: Effective personnel administration; policy and procedure formulation; board and staff roles in personnel administration; affirmative action compliance; performance appraisal; wage and salary administration; and ERISA compliance. Methodology includes simulations, lectures, small-group discussion, and case studies assignments.

Credit recommendation: In the graduate degree category, 2 semester hours in Business and Public Administration, Guidance and Counseling, or Industrial Psychology (3/77).

Management Training for Staff with Executive Potential

Location: Various locations nationally.

Length: 59 1/2 hours (8 days); residential.

Dates: March 1977–Present.

Objective: To provide professional staff with managerial skills required for executive performance in voluntary organizations.

Instruction: Management concepts; allocation of human and other resources; management and organization processes; team development; personal assessment and career planning. Methodology includes lecture, discussion, case studies, and role play.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Business Administration, Community Affairs, Public Administration, or Sociology (3/77). NOTE: This course covers much of the same material as Management Workshop for Executive Staff. Credit should not be awarded for both.

Management Workshop for Executive Staff

Location: Various locations nationaliy.

Length: 52 hours (8 days); residential.

Dates: March 1977–Present.

Objective: To provide executive staff with managerial skills applicable to the voluntary organization environment.

Instruction: Management and organization processes; planning; problem solving and decision making; control and evaluation; supervision; conflict management; personnel and financial administration; communications. Methodology includes lecture, discussion, case histories, role playing, and small-group learning teams.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Business Administration, Community Affairs, Public Administration, or Sociology (3/77). NOTE: This course covers much of the same material as Management Training for Staff with Executive Potential. Credit should not be awarded for both.

Management Workshop for Student YWCA Staff

Location: Various locations nationally.
Length: 49 hours (8 days); residential.
Dates: March 1977–Present.
Objective: To provide the staff of YWCA's that primarily serve postsecondary students with the managerial skills to effectively utilize human, financial, and physical resources.
Instruction: Management training and the planning function; program development; current social forces and trends in higher education; building student involvement and pluralistic leadership; development of YWCA Boards; sound financial planning. Methodology includes lecture, simulations, audio-visual aids and workshops.
Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration, Community Affairs, Guidance and Counseling, Public Administration, or Sociology (3/77).

Presidential Leadership and Association Committee Chairpersons' Workshop (An Overview of the Role of Voluntary Leaders in the YWCA)

Location: Various locations nationally.
Length: 27 1/4 hours (4 days); residential.
Dates: March 1977–Present.
Objective: To provide an overview of volunteer leadership responsibilities.
Instruction: Provides a conceptual basis for planning, budgeting, communicating, decision making, and problem solving. Clarifies leadership roles and management responsibilities of executive directors, presidents, and chairpersons. Methodology includes lecture, discussion, and small-group interaction.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration, Sociology, or Urban or Community Affairs (3/77).

Program Development Workshop

Location: Various locations nationally.
Length: 39 1/4 hours (8 days); residential.
Dates: March 1977–Present.
Objective: To provide professional staff with knowledge and practical experience in program design, development, and delivery.
Instruction: The course is a practicum in program-planning process. Methodology includes lecture and discussion; emphasis is on practical application, to include designing, implementing, and evaluating a program.
Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Curriculum Development, Guidance and Counseling, Social Work, or Sociology (3/77).

Staff Development II

Location: Various locations nationally.
Length: 54 hours (8 days); residential.
Dates: March 1977–Present.
Objective: To provide relatively new staff with insight into the human responsibilities and skills required of voluntary association professionals.
Instruction: Working with volunteers; the planning process; finance; program development; analyzing community needs and resources; conflict management; team building; group work techniques; proposal writing; financial resources. Methodology includes lecture, group discussion and interaction, role play, and group and community interaction.
Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Business Administration, Community Affairs, Guidance and Counseling, Social Work, or Sociology (3/77).

APPENDIX A
List of Evaluators

Dewey A. Adams
Chairperson, Comprehensive Vocational Education
Ohio State University
Columbus, OH

Joseph D. Adams
Assistant Division Chairman for English
Northern Virginia Community College
Annandale, VA

Richard Allan
Assistant Dean for Career Education & Community Service
Northern Oklahoma College
Tonkawa, OK

Richard A. Almonte
Consultant, Vocational Education
Department of Education
Bureau of Vocational-Technical Education
Providence, RI

Edwin L. Andrews
Chairman, Division of Arts and Sciences
SUNY Agricultural and Tech College
Cobleskill, NY

Frank Angell
Professor of Insurance and Finance
New York University
School of Business
New York, NY

Roger Atherton
Director, Division of Management
College of Business Administration
Oklahoma University
Norman, OK

Alexander W. Avtgis
Department Head, Electrical/Electronic Engineering Technology
Wentworth Institute and Wentworth College of Technology
Boston, MA

W. E. Bailey
Automotive—Center Coordinator
Oklahoma State University
School of Technical Training
Okmulgee, OK

Joan Barnacle
Instructor of Medical Assisting
Indian Valley College
Novato, CA

Eugene W. Bartel
Senior Research Associate
Carnegie-Mellon University
Pittsburgh, PA

Richard A. Bassler
Director of Computer Systems Applications Program
The American University
Washington, DC

Colin Battle
Chairperson, Division of Business Administration
Broward Community College
Pompano Beach, FL

William A. Beck
President, Guthrie Foundation for Medical Research
Sayre, PA

Leon Bedard
Chairman, Science and Technology
Mt. Wachusett Community College
Gardener, MA

Kenneth Benson
Chairman of Health, Urban and Outdoor Recreation
Kean College
Union, NJ

Leslie H. Berk
Chairman, Division of Administrative Services
Director of Continuing and Management Education
Franklin University
Columbus, OH

Leland Biggs
Professor, Business Administration and Economics
Montgomery College
Rockville, MD

George Biles
Professor of Personnel Administration
School of Business Administration
The American University
Washington, DC

Robert L. Bowers
Chairman, Division of Business and Public Services
J. Sargeant Reynolds Community College
Richmond, VA

Paul Boyd
Chairman, Electronics Department
University of the District of Columbia
Van Ness Campus
Washington, DC

Robert Braswell
Technical Director
Armament Development and Test Center
Eglin AFB, FL

Audrey Bronson
Professor of Psychology
Cheyney State College
Cheyney, PA

Jacqueline Brophy
Director of Labor Liberal Arts Program
Cornell University
New York State School of Industrial & Labor Relations
New York, NY

Robert Brucker
Industrial Electricity Instructor
Erie County Technical School
Erie, PA

John Bullard
Assistant Dean for Graduate and Continuing Education
Uniformed Services
University of the Health Sciences
Bethesda, MD

Herbert Burns
Department Head
Accounting and Finance
Central Piedmont Community College
Charlotte, NC

William A. Carr, Jr.
Chief of Vocational Training (Retired)
U.S. Government Printing Office
Arlington, VA

Don B. Chaffin
Professor, Dept. of Industrial & Operating Engineering
University of Michigan
Ann Arbor, MI

Aime J. Chapdelaine, Jr.
Assistant Professor
Electronics Program
Northern Virginia Community College
Annandale, VA

James W. Chester
Instructor, Department of Business
Cameron University
Lawton, OK

Vincent P. Cieri
Chief, Training Development
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APPENDIX B
Program Policies and Procedures

These policies and procedures, approved in November 1977 by the Commission on Educational Credit, are an expansion and revision of the policies and procedures approved in the fall of 1975. They reflect the Program's growth and refinements of the evaluation process. All participating Program offices adhere to these policies and contribute to their formulation. They will undoubtedly undergo future revisions as the Program progresses.

Eligibility

1. Organizations eligible to submit educational programs for review are noncollegiate institutions whose primary focus is not education (such as private industry, governmental agencies, labor unions, voluntary associations, and professional associations) and which offer courses to their employees or members. Also eligible to participate in the Program are nonprofit organizations whose primary or exclusive purpose is to provide occupationally-oriented educational programs to members or to the employees of member organizations, e.g. professional, trade, or industrial associations. Participation in the Program is on a voluntary basis, with each organization choosing, in consultation with Program staff, those courses which it wishes to submit for evaluation.

2. Only educational programs or courses conducted on a formal basis and with official approval of the sponsoring organization will be considered. Courses must be under the control of the sponsoring organization. Informal on-the-job training and job experience will not be reviewed.

The following guidelines shall be used in selecting courses or programs for review:

a. The material presented in each course must be on the postsecondary level.

b. The instructors should be selected on the basis of their qualifications to teach the subject matter, including their formal education and experience.

c. The course should serve people who can use the credit recommendations toward a postsecondary credential.

d. Appropriate procedures (tests, projects, oral quizzes, etc.) must be used in the courses to evaluate student performance. Correspondence and independent study courses must include a proctored examination administered under secure conditions.

e. Independent study courses (courses which include a structured course of study that guides the student through a specified body of material and that is available to all students for possible use in independent or group study) are also eligible for review. Such courses must also include a centrally administered examination.

f. Intensive courses should be of at least 5 days duration (35-40 hours of instruction).

g. Intensive technical courses involving laboratory or workshop exercises should be at least 10 days in length (70-80 hours of instruction).

h. Courses conducted over an extended period of time should contain at least 30 hours of instruction.

i. Individual courses that do not meet the above time requirements may be grouped together for purposes of review if they form a coherent instructional sequence.

j. Courses that have not been offered during the preceding five years will not be reviewed.

Documentation

3. Sponsoring organizations will submit information concerning the administration of their educational programs. On the basis of this information, Program staff will decide whether the organization demonstrates sufficient stability and control to present its courses for review. Information submitted will include a description of the administration of the training function, procedures for selecting and evaluating instructional staff, procedures for course development, evaluation, and revision, and procedures for insuring consistent quality in programs delivered at multiple locations. This submission will be a part of the Program's permanent record on the sponsoring organization.

4. Each participating organization must maintain permanent and official records of students' participation and performance in any course which is reviewed. The sponsoring organization must demonstrate the capability to store and retrieve student records for the period covered by the credit recommendations.

5. Information must be provided in sufficient detail to allow each course to be judged by the review team.

a. For the evaluation of courses involving classroom instruction, the following information must be submitted:

1) Course syllabus describing the objectives and content.
2) Instructional materials used for the course (textbooks, audio-visual materials, case studies, problems, etc.).
3) Required or suggested qualifications of course participants.
4) Qualifications of instructional staff.
5) Techniques used to evaluate student performance (including samples).
6) Duration of the course.

b. For independent study courses, the following information must be submitted:
1) Course syllabus describing the objectives and content.
2) Study materials (including syllabus, textbook, study guide, etc.) made available to the student.
3) Required or suggested qualifications of course participants.
4) Copies of the examination and scoring key.
5) Materials relating to the development, analysis, and administration of the examination.

The Course Review

6. Preferably, each review session will be conducted at the training site of the sponsoring organization. If an organization conducts programs on a multi-state basis, that is, draws course participants from two or more states, the review will be conducted by the Program office that is responsible for that jurisdiction where the training is conducted. If there are multiple training sites, the course review will normally be conducted at the central training site or educational headquarters. The central site or headquarters can be defined as the site where materials are designed or developed, and where the director of training and staff reside.

Wherever the session is held, persons from the organization should be available to answer questions that arise during the review of the course materials and to describe the process by which the curriculum is developed, evaluated, and revised. For reviews at the graduate level, site visits are mandatory.

Selection of Reviewers

7. In conducting course reviews, no fewer than three subject-matter specialists in the field under consideration will be used. The names of individuals to serve in this capacity will be solicited from postsecondary institutions, professional and educational associations, accrediting agencies, and noncollegiate organizations. In general, the review team will include one practitioner from a noncollegiate organization.

8. The following criteria will be considered in selecting course reviewers:

a. Area of reviewer competence as evidenced by formal training and experience will closely approximate area of courses being reviewed.

b. Preference will be given to reviewers who have had five years or more teaching experience (with the exception of the practitioner noted in *7* above).

c. Preference will be given to reviewers with experience in curriculum development, e.g., membership on a curriculum committee (with the exception of the practitioner noted in *7* above).

d. Preference will be given to reviewers who are generally receptive to granting credit for learning in noncollegiate settings.

Evaluative Criteria

9. In the exercise of their professional judgment, review team members will consider the following factors in determination of a credit recommendation:

a. The subject matter of a course, its level of difficulty, and its applicability to a range of postsecondary programs. These factors are of primary importance.

b. Distinctive aspects of noncollegiate education, including the background and selection of both instructors and students, the duration of a course, ongoing application of classroom learning in the students' work, and motivational factors.

c. Duration and concentration of effort in relationship to the generally accepted practice for determining credit in postsecondary institutions. Normally, academic credit is assigned on the basis of one semester credit hour for each 15 classroom contact hours plus 30 hours of outside preparation or equivalent; one semester credit hour for each 30 hours of laboratory work plus necessary outside preparation or equivalent; one semester credit hour for not less than 45 hours of shop instruction (contact hours or equivalent). Credit recommendations made by reviewers shall not, however, be derived by a simple arithmetic conversion. Intensive courses offered by noncollegiate organizations do not necessarily require as much outside preparation as many regular college courses. Reviewers should consider the factors of pre- and post-course assignments, prior work-related experience, the concentrated nature of the learning experience, and the reinforcement of the course material gained in the subsequent work setting.

d. For independent study courses the quality and technical merits of the examination as a measurement instrument, since the examination is the key element in assessing the learning outcomes of an independent study course.

Credit Recommendations

10. Credit recommendations will be reported in the following categories:

1. Vocational Certificate: This category describes course work of the type normally found in nondegree (certificate)

programs, which are usually a year or less in length and designed to provide students with occupational skills. They can also be found in some curricula leading to associate degrees in applied science. Course content is specialized and the accompanying shop, laboratory, or similar practical components emphasize procedural more than analytical skills.

2. Lower-Division Baccalaureate/Associate Degree: This category describes course work of the type normally found in the first two years of a baccalaureate program and in programs leading to the Associate in Arts, the Associate in Science, or the Associate in Applied Science degrees. The instruction stresses development of analytical abilities at the introductory level. Verbal, mathematical, and scientific concepts associated with an academic discipline are introduced, as are basic principles. Occupationally oriented courses in this category are normally designed to prepare a student to function as a technician in a particular field.

3. Upper-Division Baccalaureate: This category describes courses of the type found in the last two years of a baccalaureate program. The courses involve specialization of a theoretical or analytical nature beyond the introductory level. Successful performance by students normally requires prior study in the area.

4. Graduate Degree: This category describes courses with content of the type found in graduate programs. These courses often require independent study, original research, critical analysis, and scholarly and professional application of the specialized knowledge or discipline. Students enrolled in such courses normally have completed baccalaureate work.

11. Credit recommendations will apply retroactively to the date the course was offered substantially in the same form as seen at the review. Procedures for reporting and recording students' successful completion of the course must extend to the point to which the credit recommendation is backdated. In no case shall recommendations be made retroactive beyond ten years from the time of the site visit.

Updating Recommendations

12. Credit recommendations will be kept current by the following procedures:

a. At five-year intervals, each course will be reviewed, preferably on site, by a subject-matter specialist to determine if the credit recommendation is still applicable. Preferably, this subject-matter specialist will have been a member of the team that established the initial recommendation. The course materials will be compared with those used at the time of the initial review. Those courses which are judged to have undergone substantive changes will be re-evaluated by a full team.

b. At regular intervals in the five-year period following the review of a course, participating organizations will submit information on each course for which credit recommendations have been established. Any indication of a substantive change will result in a re-evaluation of the course.

Program Review and Dissemination of Results

13. The American Council on Education Program office will maintain a register of all credit recommendations established by the Program offices. At regular intervals the credit recommendations established by all Program offices will be reviewed for quality and consistency by a committee composed of members designated by each Program office and chaired by a member of the Commission on Educational Credit. The committee will also address issues which arise within the Program and will recommend policy to the Commission on Educational Credit.

For courses which are assigned credit recommendations, course review results will be reported in displays containing the following information: name of course; organization course number, when available; location; length in contact hours and days or weeks; dates covered by the recommendation; statement of objectives; description of course content and instruction; credit recommendation in the appropriate category or categories and subject area(s); and date of review. Results need not be published for courses where credit recommendations are not assigned, but these must be made available to institutions and affected students on request.

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cational objective, including requirements for graduation. Learning should be articulated, documented, and measured in the context of the institution's role and the student's educational objective.

3. Institutions should evaluate extra-institutional learning and award credit only in subject-matter fields in which they have available faculty expertise or where they can rely on nationally validated examinations or other procedures for establishing credit equivalencies. Normally, institutions should evaluate learning and award credit only in subject fields in which they offer comparable courses or curricula; however, elective credit appropriately may be excepted.

4. Institutions awarding credit for extra-institutional learning should develop clearly stated policies and other information related to administrative responsibility, student eligibility, means of assessment, recording of results on transcripts, storage of documentation, student fees, and maximum number of credits allowable.

5. Institutional policy should include provision that the institution's policies and procedures for awarding credit for extra-institutional learning should be subject to periodic reevaluation.

Resources

1. Publications of the project on the Cooperative Assessment of Experiential Learning, available from the Educational Testing Service, Princeton, New Jersey 08540.

2. Testing programs such as the College-Level Examination Program, the College Proficiency Examination Program, and the subject standardized tests of the Defense Activity for Non-Traditional Education Support.[2]

3. *Guide to the Evaluation of Educational Experiences in the Armed Services,* published by the American Council on Education and available from the ACE Publications Division.

4. *The National Guide to Credit Recommendations for Noncollegiate Courses,* published by the American Council on Education.

5. *Awarding College Credit for Non-College Learning,* by Peter Meyer, Jossey-Bass Publishers, 1975.

[1] "Extra-institutional learning" is defined as learning that is attained outside the sponsorship of legally authorized and accredited postsecondary educational institutions. The term applies to learning acquired from work and life experiences, independent reading and study, the mass media, and participation in formal courses sponsored by associations, business, government, industry, the military, and unions.

[2] The Commission on Educational Credit of the American Council on Education has developed guidelines and procedures for evaluating testing programs used for credit-by-examination. The purpose of the evaluation process will be to verify and publish information that will be helpful to institutions in establishing policies for credit-by-examination. The first publication containing the results of the evaluations will be issued in late 1979.